

THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. LVI.

SATURDAY, MARCH 29, 1890.

No. 13.

ORIGINAL LECTURES.

HEPATIC FEVER.

The Middleton-Goldsmith Lecture for 1890, delivered before the New York Pathological Society, Jan. 15, 1890.

BY WILLIAM PEPPER, M.D., LL.D.,
OF PHILADELPHIA.

MR. PRESIDENT AND MEMBERS OF THE NEW YORK PATHOLOGICAL SOCIETY: Your President's kind introduction adds to the embarrassment which I confess to have felt in endeavoring to select some subject which might more or less worthily occupy the attention of such a body; in casting about for such a subject, I found much difficulty, and that which I finally chose will possibly be regarded as scarcely appropriate. It is not wholly pathological, but partly clinical in its interest. The very name "hepatic fever" may seem more or less a misnomer. We meet with so many affections of the liver attended with fever, that it would be impossible to place in one group all to which this name might in one sense be applied.

It is true that, without calling in the assistance of our willing brethren, the laparotomists, we are, at times, unable to make an exact differential diagnosis, and are still forced to name the affection by the most prominent symptom. And I am sure you have all met with cases of lesion of the liver or of its ducts, attended with fever of the peculiar type I wish to describe, and in which the determination of the exact seat and kind of the lesion was difficult or impossible. I do not intend to speak of the more ordinary fever which attends many acute hepatic affections, which is merely a more or less severe continued febrile movement with moderate fluctuations. We note this, for instance, in acute catarrhal jaundice, or for a few days following the passage of a gall-stone. Nor do I now include that very interesting affection, known as Weil's disease, of which, I believe, I have seen three cases, although only in one have I a full clinical and pathological record. What I shall say is based on a study of twenty-one cases, where fever of a peculiar paroxysmal character appeared in connection with various hepatic lesions. It may either be a quotidian, a tertian, or a quartan; and I have even seen a double quotidian type. It is a distinctly paroxysmal fever, often ushered in by a violent chill, shaking the whole body of the patient. Sometimes there is only a slight rigor, sometimes it even comes on without any perceptible sensation of cold at all. This is followed by an unusually rapid rise of temperature, reaching as high a point even as 103° , 104° , or 105° , attended with distress, restlessness, thirst, more or less pain through the frame, and not rarely with vomiting; lasting for a few hours—from four or five to as many as ten or twelve—and terminating by a sweat, sometimes merely a moisture, sometimes a drenching sweat soaking the clothing of the patient and

bed. This fever may be repeated, as I have said, at quotidian, tertian, or quartan intervals; a single paroxysm may close it, or there may be successive paroxysms, the intervals being sometimes regular and sometimes wholly irregular, amounting to days, weeks, or even months before another attack appears. After each paroxysm, jaundice makes its appearance as a rule; but sometimes it is only slight, or may even be absent, with at most a little yellowish discoloration of the conjunctiva and some darkening of the urine for a short time. In the majority of cases, however, the jaundice is decided, and may be intense, lasting for varying periods, sometimes days, sometimes several weeks, before passing away. At the moment of the occurrence of such a paroxysmal fever, there may or may not be severe hepatic pain. This pain may be wholly absent, and yet a hard chill, high fever, profuse sweat, and deep jaundice follow. Or there may be pain so severe that it forces the belief that a calculus is engaged in one of the ducts—the pain requiring hypodermic injections of morphine for its relief.

In bad cases, where such paroxysms recur, you can easily understand that the general health of the patient suffers severely. Anæmia is developed; there is marked loss of flesh; the digestive processes are impaired; and we find these paroxysms recurring with greater and greater facility; in fact, in this type of hepatic fever, an unfavorable prognosis often has to be made, and many such cases go on to a fatal result after a course of variable duration. But it is far from being always fatal, and in a certain number of cases—it has been my own good fortune to see quite a number of them—after having from fifty to one hundred paroxysms, complete recovery occurs, without anything to signalize the termination of the process—no morbid discharge, nor passage of a calculus, but a gradual subsidence of the morbid condition itself.

It is to this type of fever, paroxysmal and intermittent as a rule, with paroxysms occurring sometimes closely together, with a certain amount of febrile action kept up between them, that I would ask your attention this evening.

It is not in connection with the liver alone that we meet with fever of this type; I shall later ask attention to the resemblance existing between this and urethral fever, where we find in connection with certain morbid states of the urinary tract, febrile paroxysms having considerable analogy with those already described.

In trying to understand a febrile process of this kind, it is clear that we must have in view the general causation of fever, and I take it, that we are all agreed to-day that fever comes very often as a septic process from absorption into the system of some morbid, pyrogenic, poisonous substance. And, secondly, that fever is caused by a disorder of the nervous apparatus controlling heat production and dissipation, and that this disorder may either be centric directly, or may be induced by

reflex irritation from some local disease. The reality of this last cause of fever, I think, may be demonstrated by the interesting physiological experiments which my distinguished friend, Dr. H. A. Hare, is bringing to a conclusion in the laboratory of the University of Pennsylvania, which show that a lesion which engenders fever will not do so provided all the nerve-trunks of the limb be severed; in other words, that in certain cases we must recognize, as a cause, the existence of a local lesion acting upon the heat-controlling mechanism at the centre in a reflex manner.

When we come to apply these general thoughts upon fever to the subject of fever connected with the liver, we would expect, I think, from the known antiseptic properties of the bile, to find certain difficulties in the development of fever; whereas, on the contrary, it seems to me, clinically, that there is no organ in connection with which we find more violent explosions of fever than we do in the case of the liver. It is very certain, however, that the entrance of bile into the blood cannot be brought into account to explain the production of fever. The injection of the entire bile, or the injection of bile-salts, both lower temperature, slow the pulse, and slow breathing, but do not create fever at all. Again, bile may lie for a long time, even for weeks, in an obstructed duct, and undergo no morbid change which makes it pyrogenic. It is perfectly true that the bile, a highly complex liquid, is singularly prone to undergo chemical change—bilirubin becomes converted into biliverdin in the easiest manner possible. But this is a chemical change, and is not one attended with the development of septic principles; so that the bile may remain a long time in the obstructed dilated ducts without undergoing changes rendering it capable of producing septic processes or pyrexia.

It seems, then, necessary, in these cases, that we should recognize the existence of additional elements; that there should be mixture with the bile of morbid discharges from the mucous membrane of the ducts; and it is very clear that this could be brought about in almost any case very readily. Thus, for instance, the passage of a gall-stone frequently leaves a laceration of the mucous membrane. We have, then, at once an abrasion, a source of morbid discharge and admixture with the bile of putrefactive matter, and this may be sufficiently considerable in amount to alter the character of the bile and start a septic process.

Or, again, this same lesion serves as the starting-point of reflex irritation, to disorder the heat-controlling mechanism. Note, in connection with this, that most of the cases we are discussing are attended with more or less obstruction of the ducts of the liver, and think how often it is, in studying our cases of liver disease, that we recognize the existence of such obstruction. Now, when the ducts of the liver are obstructed and distended with accumulated bile, not only is the bile absorbed into the lymphatics if the pressure goes beyond a certain point, causing absorption-jaundice, but this pressure upon the hepatic tissue about the distended ducts interferes powerfully with the functional activity of the liver.

The bile-secreting function of the liver is certainly far from being its only important function. I doubt not we have yet to learn of new functions of essential value; but there is one we already know enough about to

assert that it is of immense importance, and, so far as the production of disease is concerned, of even greater importance than the bile-secreting function, *i. e.*, the ptomaine-destroying function of the liver.

The liver, then, possesses this extraordinary power of arresting pyrogenic substances such as the albumoses, whether hemi- or deuto-albumose, as they are passing into the system from the intestinal canal, and of destroying their morbid properties. So that, granting the functional activity of the liver, these pyrogenic substances are not able to penetrate the system and generate pyrexia.

If you have a condition of the liver where the bile-ducts are distended with accumulated bile, not only, I say, does jaundice occur, but inevitably we shall have this important ptomaine-destroying function of the liver more or less paralyzed; and there will pass on into the system, on account of this arrest of the functional activity of the liver, pyrogenic and poisonous substances which may be responsible for the fever and other symptoms which subsequently develop.

The mere absence of bile from the intestine in cases of occlusion, even though it be a complete absence, is not immediately disastrous provided the diet of the patient is carefully regulated, and especially if fats be excluded; for, in the absence of bile, the fats break up rapidly into highly injurious derivatives in the intestines.

Thus I may quote the case (No. 1) of William McF., a man aged sixty-five years, who was admitted to the medical ward of the Philadelphia Hospital on September 2, 1870. The history obtained showed that he had enjoyed good health until four months before admission, when jaundice gradually appeared. The yellowness grew steadily more and more marked, and he lost flesh and strength rapidly. He had never suffered from an attack of hepatic colic, and the present sickness had come on without pain. On admission the jaundice was intense, affecting the conjunctiva and the whole cutaneous surface. His mind was clear but dull, and he usually lay in an apathetic, lethargic state. His weakness was so great that he rarely left his bed, and his emaciation was extreme. There was entire anorexia; the bowels were constipated, and the stools grayish-white in color, tough, and very offensive. No free fat was observed in the stools. The urine was rather scanty, and contained no albumin, but was dark brown in color. Tests showed the presence of abundant bile-pigment, but on applying to it Hoppe's test for bile-acids, none were detected. The abdomen was meteoric. The area of hepatic dullness was normal, and no tumor or irregularity of the surface of the liver could be felt. The gall-bladder could not be detected. There was no tenderness over the liver. The skin was usually dry; perspiration, when it occurred, was deep yellow. There was at no time any fever.

At the autopsy all the viscera were deeply stained yellow. The kidneys contained numerous large cysts. The liver, of normal shape, was somewhat enlarged in size, but much more dense and heavy than normal, weighing five pounds. The liver tissue was deeply stained with bile, and coarse-grained, as though in the first stage of cirrhosis. The radicles of the gall-ducts throughout the organ were much dilated and filled with grumous bile. The larger branches of the hepatic ducts, as the transverse fissure was approached, contained numerous polygonal brownish-black gall-stones. The hepatic duct

itself was enormously dilated (at least one inch in diameter), and was filled with very numerous calculi. These calculi, for the most part, measured one-fourth to one-third of an inch in diameter. There was one, however, fully two-thirds to three-fourths of an inch in its measurements, and with rounded edges, which was firmly impacted in the hepatic duct, just above its juncture with the cystic duct. The common duct itself was somewhat dilated, either from the previous passage of smaller calculi, or, more probably, from the dilating action of the impacted stone. The gall-bladder was considerably distended with light-colored bile, and contained numerous minute blackish calculi. There was no thickening, inflammation, or ulceration at any point of the biliary passages.

Here had been prolonged and entire occlusion of the hepatic duct, and yet no hepatic fever had resulted, because at no point in the biliary passages was there evidence of abrasion or inflammatory action; there had simply been resorption into the body of the normal bile. The patient's health had suffered from this protracted occlusion very much more markedly than was observed; for instance, in the well-known case reported by Bristowe, of London, where, for a long time, a patient was under observation with a biliary fistula. A tube had been introduced into the duct so that all the bile escaped externally, none entering the intestine, as shown by the condition of the feces and of the local lesion, and yet there was very fair maintenance of the patient's health. There are a few similar cases on record. I will add the record of another interesting case of obstruction of the bile-ducts without fever, which was under my care lately.

CASE II.—H. N. B., aged seventy-five, began to feel sick December 20, 1887, at which time he weighed one hundred and sixty-five pounds. Twelve years previously, about 1876, he had a spell of pain followed by jaundice. He also had several spells about 1883. Subsequently he was pretty well up to September, 1887, after which he had occasional slight attacks of pain in the region of the liver, followed by a little jaundice, and then had a severe attack on December 20, 1887, and a second one in February, 1888. After this they occurred almost every week and the jaundice was constant, though fluctuating in degree and passing away somewhat in the intervals. He had no fever at any period in the course of his case, but had, however, occasional sweats, chiefly of the legs.

He came under my care in April, 1888, when he was losing flesh rapidly and was constantly deeply jaundiced. The urine contained bile, but the feces were not putty colored. Examination showed slight enlargement of the liver, but no mass could be found nor was the gall-bladder distended. There was no tenderness on pressure over the liver, but only a deep-seated sense of discomfort. He continued to have occasional spells of pain, with deepening jaundice but without fever, until summer, when he went to his country seat and I saw him but occasionally. He now had a series of very alarming spells with slight chills, followed by pain, prostration, and sweating, but without fever; there was constant deep jaundice. On July 8th, he had an alarming spell, during which he fainted and immediately afterward discharged a large amount of golden-yellow thick bile by the bowel, estimated at two pints.

He continued to discharge this in smaller amounts for three days and then seemed to improve. On July 28th he had his worst spell, fainting and lying unconscious for an hour and a half. After this attack the pain, which had always been over the liver, about the short ribs on the right side, suddenly changed and was in the middle, below the umbilicus; and he never had any pain in the hepatic region afterward. From this date until October 31st, every stool was examined but no calculus was found. The stools were very varied, sometimes in ribbon shape, sometimes round; but whether flat or round, they were always grooved as if forced past some round hard object. Their color was at times brown, green, and white, and at other times there was a light green liquid, but no pus was seen. From July to December he had numerous spells of pain always low down in the middle of the belly; and in such attacks he always had impaction of the cæcum, requiring laxatives, which would bring away ribbon-shaped feces. After August his only treatment was rest, massage, careful diet, and olive oil. He was so reduced that he weighed only one hundred and ten pounds, and so very anæmic that he fainted on several occasions. His last spell of pain was on November 25th, after which he gradually and steadily improved. He is now in perfect health, in his seventy-eighth year, and weighs as much and can walk as briskly as at any time for years past.

I believe that this case was one of large calculus with accumulation of bile behind it; and that the calculus escaped into the intestine and remains fixed there, probably in a pouch of the colon, up to the present time.

I have spoken thus of the mere occlusion of the bile-ducts, and of the fact that they often give rise only to these distention-results without hepatic fever. It is probably true, as already stated, that extreme distention may favor the admission of pyrogenic substances by impairing the ptomaine-destroying function. But it must also be noted that after occlusion has lasted some time, the irritation of the wall extends to the connective tissue surrounding the duct, and we have set on foot a peri-angiocholitis, which may spread, more or less extensively, through the organ. Not only this, but when morbid discharges occur and mix with the retained bile, we may find either a large abscess or a number of small miliary abscesses scattered through the liver even to the capsule. Thus it is that in some cases of occlusion we have no fever, and in others the typical form described is present.

If we now try to explain the apparent periodicity which occurs in some cases of hepatic fever, it seems attended with considerable difficulty. If there be a fixed lesion, as, for instance, a suppurative inflammation of the gall-bladder, there we have a distinct pus-forming centre, and we may have a true pyæmia. Naturally, in such cases, we find an explanation for the febrile process with regularly recurring, often quotidian paroxysms, just as we find with a pus centre of similar character elsewhere in the body. But in those cases, and they constitute the majority of the cases, where the paroxysms do not recur every day or every third day, or with any regularity, and yet recur frequently, it seems as if we must assume the existence of a lesion not continually sufficient to cause fever, but which is extremely liable to be increased by external causes.

Take, for instance, a catarrhal angiocholitis, an inflam-

mation of the bile-ducts of a catarrhal character, with a certain amount of thickening of the walls of the ducts, and a relaxed and enfeebled condition of the system; here is a state singularly prone to exacerbation and increase from external causes—such as a chilling of the surface or an indiscretion in diet; increased swelling of the mucous membrane and total occlusion of the ducts are the results, and there is a mixture with the bile of the morbid discharges from the inflamed mucous membrane, and at the same time an intense local irritation acting upon a system which has become highly sensitive.

I shall read to you the notes of a case where a long-continued series of these paroxysms were evidently explicable on this supposition.

CASE III.—H. B. D. came under my care on March 19, 1888. For many years he had been greatly exposed on the plains in the West, subsisting on coarse food. His best weight was one hundred and fifty, but for twenty years it was not above one hundred and thirty-five. In 1880 he had congestion of the lungs in Texas, and has been susceptible to colds since then, catching cold frequently every winter. He had diarrhoea through the summer of 1885; and again in the summer of 1887. He was in the West, exposed to intense heat, and had returned to Nantucket, where in August he had his first chill, and has had chills since then at irregular intervals, from daily up to seventeen days apart. The chills were severe at times, lasting distinctly for an hour. They were followed by fever ($102\frac{1}{2}^{\circ}$ to 104°), ascending for from six to twelve hours and then quickly dropping, so that the temperature within two or three days was almost normal. No treatment prevented their return. At about the same time (September, 1887), pain began to be felt in the right side; but on one occasion only were the chill and attendant pain so violent that hypodermic injections of morphine were required. Jaundice first appeared in October, 1887, and has continued more or less since, at times very deep, at other times almost absent. It always comes promptly after a chill, when the urine also becomes very high-colored. The stools are light but never clay-colored, and always have contained bile.

When I first saw him I made the following note: the chills now recur about twice a week, but irregularly. The patient has progressively lost flesh and strength. Ascites appeared February 15, 1888, and has increased, so that now it is very considerable. The urine contains a small amount of albumin, specific gravity 1021 to 1023; with abundant indican at all times. It was extremely difficult to obtain the reaction of biliary coloring matter, and repeated tests gave negative results. But on getting the urine perfectly fresh and preventing decomposition of the bilirubin by the addition of a little ether it was obtained. This observation seems important as bearing on the rapidity with which the organic bodies in the bile may break up, whether or not from bacterial action, and thus bearing also upon the development of irritating ptomaines in obstructed bile-ducts.

The diagnosis adopted was that of severe catarrhal angiocholitis, and the result verified it. Paracentesis of the abdomen was performed three times and several gallons of clear yellow serum were withdrawn each time. The patient was treated with absolute rest in bed, rigidly

strict diet, and alternating courses of nitrate of silver and potassium iodide. He took at first twenty-five grains of silver, then after an interval of a month fifteen grains, after another interval fifteen grains more, and subsequently took it at short periods when spells recurred. Careful study showed that there had been no periodicity in the chills and that they had always been produced by exertion and exposure. He had finally become so sensitive that the most trivial exposure was sure to be followed by a severe chill. The ensuing fever, running up to 103° or 104° , was followed by profuse sweat, intense jaundice, and furious itching. His restless spirit led him to rise as soon as he was able, and immediately after doing so there would come another spell. In this way a certain semblance of regular recurrence was produced. After he was confined to bed the spells subsided and soon ceased; and he had none as long as I kept him in bed, which was nearly four months; at the end of which period he was almost free from jaundice, had no ascites, and had gained flesh and strength. He immediately began to overtax his strength and to expose himself. He would then take cold and have a recurrence of jaundice; but as the tone of his system improved, and with the improvement in the local conditions, there was continually less and less fever with the spells, though it was not unusual for it to go up to $101\frac{1}{2}^{\circ}$ and 102° . The urine continued to contain a trace of albumin, and occasionally a hyaline cast would be found. The blood showed, at different times, from sixty increasing to eighty-five per cent. of hæmoglobin and from 3,400,000 up to almost normal of red-blood globules. His improvement was thus progressive but fluctuating and the case required constant, close watching. For instance, after being entirely free from fever and jaundice, all summer at Nantucket, he overtaxed and exposed himself in September, 1889, in New York, and brought on a chill with high fever and return of jaundice, which confined him to bed for more than two weeks. Since then he has improved steadily and is now in very good health. He is travelling in the West and is using a drachm of glycerin twice daily with potassium iodide.

In the following interesting case the symptoms and the course of the disease were very similar to those just narrated.

CASE IV.—Henry E. K., aged forty-nine, seen in consultation with Dr. E. E. Montgomery. He had catarrhal fever with jaundice, in August, 1889, and since then has not been well. He is a finely built, large man, who had not had a day's illness in thirty years. He is abstemious in habits, but has worked very hard and had much responsibility. During the past two or three years he has had several mild attacks of hepatic colic, but no jaundice. He was slightly jaundiced in September, and then had chills and fever of tertian type for several weeks, which were not controlled by quinine. The chills varied in intensity, being sometimes slight, but occasionally severe, with shaking. They occurred at different periods of the day, but usually in the morning, and were followed by fever, of from 102° to 104° , lasting into the night, and ending with a sweat during the night, so that the temperature was down on the following morning. The jaundice that followed was variable both in depth and duration. During twenty-four hours, when he

had one of these spells, he passed about thirty-five ounces of urine containing 1.9 per cent. of urea, or about 300 grains in all. The appetite was poor, the stools clay colored and either loose or costive, but he had no severe pain or soreness in the region of the liver. On November 1st he had a sharp chill, and three days later a mild chill, and then violent pain and deep persistent jaundice. He continued to have chills and fever with increasing frequency throughout November and December; they would recur upon any exertion or exposure. Even after he was kept continuously in bed and upon an exclusive milk diet, he had several, but with decreasing severity and at increasingly long intervals. There were fulness and a slight sense of resistance in the region of the gall-bladder, with slight relative impairment of resonance over the duodenal region. No calculus was ever found in the feces. He was confined rigidly to bed for a number of weeks. Repeated blisters were applied over the region of the gall-bladder. He took alternating courses of silver nitrate with opium and belladonna and of potassium iodide. The jaundice has now completely passed away. There has been no spell for a considerable period; he is rapidly regaining flesh and strength.

Without dwelling upon a question of diagnostic interest, I would call special attention to the importance of estimating the daily amount of urea excreted during such paroxysms, in order to establish or refute Regnard's statement that, in distinction with what occurs in malarial paroxysms, the amount of urea excreted is reduced in hepatic fever.

In considering the mechanism of attacks in such cases as these, we are struck by the presence of intense local irritation and of probable septic action. There is occlusion of larger or smaller branches of the bile-ducts—not necessarily of the main duct, since bile may be constantly present in the feces—so that the network of ducts in only a small area of the liver may be involved and the mucous membrane be in a state of chronic catarrhal thickening. After each of the first few paroxysms the patient promptly returns to his usual habits and, sooner or later, induces a renewal of inflammation with obstruction and all the symptoms of an attack. The system soon passes into a morbidly sensitive and pyrogenic state; the heat-controlling mechanism becomes so easily disturbed that mere reflex irritation from a spot of exaggerated catarrhal inflammation may suffice to bring on a spell: but, in addition to this, the lesion of the mucous lining of the affected bile-ducts becomes more and more serious, and complete obstruction more and more readily produced. The morbid discharges from the inflamed mucous surface, which have been escaping with the bile, are then retained and induce septic changes in the contents of the ducts. There is thus the double element of acute local irritation acting on a system in a state of exaggerated sensibility, and a source of septic infection acting on a system where the ptomaine-destroying function of the liver is more or less impaired from the distention of the ducts.

It will be seen at once that in such cases the diagnosis from hepatic abscess must be considered with the greatest care. Certainly in Case III. (H. B. D.) it seemed at first as though there must be grave organic disease. A careful consultation was held in regard to laparotomy after the first paracentesis; but after repeated examina-

tion I was unable to satisfy myself that the condition justified even exploratory puncture. After prolonged confinement to bed, it became evident that the hepatic fever was not connected with a fixed suppurating centre from which septic absorption was taking place, but was connected with a varying degree of angiocholitis, and that the gravity of the symptoms was even more dependent upon the constitutional condition of the patient than upon the seriousness of the local lesion. The complete recovery of the patient has confirmed this view, and the rapid progress of H. E. K. toward recovery justifies a similar diagnosis in his case.

While it is true that, in occlusion of the ducts, there may be only dilatation of the smaller ducts above that point, with alteration and atrophy of the cylindrical epithelium and, of course, with some interference with the functional activity of the liver; it must not be forgotten that there is constant danger of such dilated ducts becoming attacked with inflammation which will rapidly result in more serious lesions. The retained bile becomes grumous and decomposed, containing shreds of detached epithelium and flakes of muco-pus; suppuration occurs in the connective tissue adjacent to the ducts, and a section of the liver may show disseminated miliary abscesses, sometimes closely clustered around the main duct and sometimes situated at the ends of minute ducts, so as to show as yellowish points immediately under the peritoneum. In other cases the process may go on to the production of a large single hepatic abscess. In cases where such suppuration is escaped, but where the angiocholitis is severe and deeply seated, the inflammation of the connective tissue around the ducts may go on to the gradual production of one type of cirrhosis of the liver; and you are all doubtless familiar with this development as a result of recurring catarrhal inflammation of the bile-ducts.

While, however, the cases above reported show that even when there have been very grave lesions, doubtless short of actual suppuration, the insistence upon protracted rest and rigid hygiene with suitable treatment may cause a gradual subsidence of the angiocholitis with return of the functional activity of the liver, I suspect that in the great majority of cases of hepatic fever, such as I am describing, there is pus present at some point about the liver. The suppuration may, as in the following case, be seated in the gall-bladder and also take the form of a miliary abscess close to the peritoneum; of course, defying operative interference.

CASE V.—Mr. F., aged sixty-three, consulted me on September 16, 1889. He had typhoid fever in 1882, and since then had often had pain in the back of the head. In the spring of 1887 he had several spells of hepatic colic—in all probability with gall-stone—followed by deep jaundice and intense itching. In the intervals between these spells he apparently regained his usual health, but for the past year had clearly been failing. He had lost much flesh, had suffered from insomnia, and recently albumin had been detected in the urine. He had also had several severe spells of hepatic pain, each time followed by fever and by local tenderness and deep jaundice. Thus, in March, 1889, he had a severe spell of pain in the region of the liver, lasting nearly all day, followed by jaundice for six weeks with severe itching; and another in April; but all was cleared up in June or

July. He had another spell in August, and had been deeply jaundiced since then, and his general condition had failed more rapidly. I found his urine, with a specific gravity of 1010 to 1013, neutral or slightly acid, with a moderately thick ring of albumin, and with quite numerous epithelial and granular casts; no sugar. This condition of urine persisted until his death, on November 12th. There was marked tenderness over the bile-ducts. In spite of continued rest in bed, and with very careful diet, repeated small blisters, and, internally, silver nitrate with belladonna, and olive oil, he continued to have, at short intervals, recurring spells of pain, followed by deeper jaundice, worse itching, and more tenderness. In each of these spells there was distinct fever, but he had no severe chill until about November 1st. From then until death he had, almost daily, a violent chill with chattering of teeth, followed by rise of temperature to 105° and ending in a profuse sweat. The jaundice now subsided decidedly, although he still remained somewhat yellow. The stools had never been putty colored, but only yellowish, and now were brownish. The urine cleared up, but continued to show the features as before stated.

Post-mortem held thirty hours after death. Body somewhat emaciated; jaundice marked; rigor mortis present.

Abdomen alone examined. On section, there was found a good layer of fat in the subcutaneous tissue of the abdominal walls. All of the tissues bile-stained. Omentum very lightly adherent by fine bands to the parietes at scattered points. The liver protruded below the costal margin about three-fourths to an inch; was adherent over the posterior, upper, and right lateral surfaces to surrounding parietes of abdomen, by universal adhesion rather than by bands. This adhesion was most marked posteriorly, where considerable difficulty was experienced in liberating the organ. There was no collection of pus in the peritoneal or retro-peritoneal spaces. *Spleen*: Large, soft, and of a pinkish-buff color. Pulp diffuent and grayish, but without purulent character; typical high temperature spleen. *Kidneys*: Large and coarsely lobulated. Capsule stripped off with moderate ease. On surface of right kidney was a cyst of about the size of a marrowfat pea, containing dark fluid. Surface of organs finely granular. On section: vessels distinct and striation very plain; slight decrease of cortical area. Pelvis and ureters normal.

Stomach, duodenum, pancreas, and liver were removed together. The *pancreas* was partly bisected and a probe placed in the duct, which was found to enter the duodenum at the papilla in the normal position. The gland tissue was, to the naked eye, normal. The *duodenum* and *stomach* were opened along their anterior face, and were found to be normal. The pyloric ring was of proper calibre.

The *liver* was large, rigid, and firm, of a slate color, and with rounded edges, which gave a feeling of tenseness when pinched. Round ligament normal. The gall-bladder was only found after prolonged search and careful dissection through the surrounding thickened, dense connective tissue. On pressure, the gall-bladder was found to contain fluid, but could not be emptied by pressure. No stone could be felt through the walls. On opening, it was found to contain about half a drachm of thick, creamy pus. On careful probing, a fine orifice was

found, which traversed a band of adhesion uniting the tip of the bladder to the duodenum and of a length of about one-half inch, the probe entering the duodenum about one inch below the pyloric ring. The hepatic artery was normal in size and position, as was also the portal vein. The common bile-duct was at first mistaken for the portal vein, by reason of its size. On slitting up the common bile-duct its wall was found to be thickened, its cavity dilated to finger size or larger, and its mucous membrane thickened, rugous, and in places mammillated. The cystic duct appeared as a cul-de-sac branching from the common duct and resembling it in calibre, character of mucous membrane, and thickness of wall. No communication with the gall-bladder existed. There was no ulceration of the mucous membrane, which was studded with the enlarged orifices of glands. On following up the dilated common into the dilated hepatic duct the same increase of calibre was found. This distention was traced up throughout the branches in the liver, even in some places to the periphery of the organ, where they resembled the ends of glove-fingers. On slitting up one of the ducts in the liver it was found to open into a marble-sized pus cavity close to the surface of the liver, the pus contained being thick and pinkish. The liver section was granular, coarse, friable, and nutmeg in appearance; evidently fatty and cirrhotic.

Again, in the following case, No. VI., very similar, though even more aggravated, lesions were found.

CASE VI.—I saw Dr. C. G. E., in consultation, in Binghamton, N. Y., on July 5, 1880. He was thirty years of age, and had enjoyed good health. His father and his younger brother had suffered from hepatic colic. He himself had been liable to such attacks for seven or eight years, but, after a trip to Europe five years ago, they seemed to have been arrested; but again, in the past three years, he had six or seven attacks. These apparently were attacks of catarrhal inflammation, with spasm of the bile-duct, but followed by very little organic change. On no occasion did they compel him to abandon his work. During the spring of 1880 he had been unusually busy, and had lost a good deal of rest. He was taken ill about the 14th of June with a chill, pain in the back, subsequent fever, and an intense pain in the region of the epigastrium and gall-bladder. Repeated hypodermic injections of morphine were needed to control the pain. There were several quite severe chills in the first thirty-six hours, with copious vomiting of bilious matter, while the temperature ran up after each chill to 105¼°. He took calomel freely, in addition to the morphine; and later, when the tendency to return of chills showed itself, quinine was given in full doses. He continued to complain constantly of great pain about the gall-bladder. Vomiting ceased, but there was a tendency to hiccough. The temperature subsequently ranged from 102° to 103°. The tongue was heavily coated and dryish. There was a slight tinge of sallowness, but nothing amounting to marked jaundice. Examination showed an area of dullness in the region of the gall-bladder, extending three inches below the ribs. It was evidently not the distended gall-bladder, but appeared to be a partial enlargement of the right lobe of the liver, with matting of the adjacent tissues. It appeared indurated, and, on pressure, was very tender but without fluctuation. The fever was mark-

edly hectic in type, with tendency to profuse sweats at night. The urine was discolored and contained bile. The stools were brownish and even at times blackish, though probably from bismuth. The urine contained no albumin. The general liver dulness did not extend above the normal limit, nor did it extend uniformly below the margin of the ribs; but there was a very distinct semi-circular area of greatly impaired resonance and increased resistance, with exquisite tenderness on pressure, which extended from the right nipple line to the median line, and from the lower margin of the ribs downward about two inches.

He did well from July 5th to July 11th, when there was a violent chill, followed by very high fever and cold sweat, leaving him much exhausted. There was still no decided jaundice. After this, he continued to have irregular chills with high fever.

I visited him again on July 24th. He was then extremely weak, with a glazed, dry tongue and thready, frequent pulse. The abdomen was distended. The area of dulness previously described was even more marked. There were decided hectic symptoms, though no distinct chill had occurred since July 12th. As the signs of intrahepatic suppuration were so clear, I proposed an exploratory puncture, which was agreed to. I introduced a medium sized trocar about half an inch below the margin of the ribs, in the region of the gall-bladder, and in a direction upward and backward to a depth of two and a half inches. However, nothing but a few drops of blood entered the vacuum. He died within a few days afterward, and the post-mortem examination showed that there was no gall-stone and no obstruction of the main bile duct. The gall-bladder was the seat of chronic inflammation; its walls were thickened and its cavity greatly contracted. It contained muco-purulent matter. There was marked circumscribed plastic peritonitis around it. The central portion of the liver was much enlarged, and extending upward into this area for a distance of several inches, and occupying a space of four inches in width, there were clustered around the lines of the bile-ducts numerous small abscesses. These varied in size from a pea to a hazel-nut. In some instances the abscess cavity connected directly with the bile-duct, and it seemed as though it might be a collection of pus in a dilated duct. More probably, however, the limiting wall was of morbid formation. The bile-ducts throughout the liver were distended, and there were a few small abscesses at distant points of the organ, near the capsule.

Without entering into the highly interesting questions of diagnosis connected with these cases, I may point out that, in the latter case, the manifest enlargement of the liver in the region of the gall-bladder called for exploratory puncture, although the symptoms had led me to expect disseminated miliary abscess, as indeed was found to exist. Did time permit, I would be glad to describe to you cases of uncomplicated purulent inflammation of the gall-bladder with similar fever, and also the more familiar type of case where a large calculus escapes from the gall-bladder by progressive ulceration, opening into the intestine. I have seen a number of cases of this kind attended with typical hepatic fever of great severity, lasting for many weeks, and yet terminating in recovery. In one such case, which I

have published elsewhere, the patient died, years after, of pneumonia and the autopsy showed complete obliteration of the gall-bladder and cystic duct, so that the middle finger could be passed directly from the duodenum into the dilated ducts of the liver. The gall-stone was found in one of the pouches of the colon. In the following case, on the other hand, there is every reason to believe that the recurring attacks of angiocholitis resulted in the formation of a single large hepatic abscess. It is notable that, in connection with the violent outbreaks of fever, there was neither intense pain nor deep jaundice. It can scarcely be doubted, however, that the origin of the pus evacuated by stool was from the liver.

CASE VII.—A. B., aged forty-six, married, has been exposed to very bad air in the court room, and had also drunk water freely from a dirty receptacle. Last spring and through the summer, had intestinal indigestion, with tendency to looseness of the bowels. This fall he assumed additional labor as professor in a law school. After great exhaustion and loss of sleep, was taken with fever; heavily coated tongue, foul breath; temperature 103° to 104° ; urine heavily loaded, and contained some bile. No characteristic spots, no nose-bleeding or bronchial symptoms. The case ran a course for three weeks like an irregular typhoid. He was apparently improving, and his temperature was down when he had a chill while in bed and while still on liquid diet, so that there was no apparent cause. The temperature went up to $104\frac{1}{2}^{\circ}$. The following day it fell almost to normal, but rose again in the afternoon, and so on three successive days. At this time there was discomfort in the hepatic region. The urine contained more bile, and there was slight jaundice. He again improved, and the fever almost disappeared, but in two weeks there was a similar recurrence of chills with high temperature. He had taken abundant quinine from the beginning of the case until this time. There was a repetition of the same hepatic symptoms. After this there was again improvement, even more marked than formerly. At this time there was a mild attack of phlebitis of the right leg. After this he again improved, and for more than three weeks was free from fever; he began to sit up for several hours daily, and cautiously resumed solid food, when, on December 20th, after taking a greater variety of solid food than he had done before, he was again attacked with chills, the temperature going up to 104° and over, and recurring on three successive days, with similar hepatic symptoms. At no time had the tongue become clean or the breath sweet, though it was much improved before this last attack.

He had taken, with apparent advantage, cool water enemata of about one pint, at a temperature of 65° ; but despite extreme care in every particular and the most judicious treatment, the attacks of fever recurred. I saw him in consultation with Drs. W. W. Johnston and Busey, of Washington, on December 23, 1889. For a few days subsequently the hepatic fever was intense, the chills occurred more than daily; the subsequent fever was very high (104° to 105°) and the sweats profuse. On Friday, the 27th, he was extremely feeble and ill, and the chilliness and sweating were almost constant. He had a strong call to stool and passed six ounces of offensive, decomposed pus. On Saturday night he passed eight ounces of the same material. Following

this discharge he made a gradual but complete recovery. The diagnosis of hepatic abscess in this case was supported by the exclusion, after repeated and searching examination, of any other source for the pus.

We have thus seen illustrations of various lesions in connection with which hepatic fever may present itself. We have also seen that similar lesions may exist without the production of this particular type of pyrexia. An attempt has been made to indicate some points of interest and importance in connection with the mechanism of its production. It has been assumed that this hepatic fever is not of very frequent occurrence, but although I may have happened to meet with a larger number of cases than should rightly fall to my lot, I am sure that it is not nearly so rare as has been represented. It seems important to place on record all carefully observed cases on account of the extreme difficulty in the differential diagnosis of the lesions, as well as in connection with the explanation of this type of fever and with the special conditions of the liver as regards its antiseptic secretion and its ptomaine-destroying function.

I will not attempt to speak fully to you of Weil's disease. This affection has only in the last few years been described as a separate entity; I do not think it comes properly at all under the class of cases I am describing. Everything connected with it seems to me to prove that it is a special infectious disease which requires much more close study in the hope of isolating the peculiar poison which produces it. The conclusions of all who have seen many cases are that it comes under the class of infectious fevers. It begins abruptly; it is attended with slight enlargement of the liver, and great enlargement of the spleen, and marked alteration of the blood. Between the fifth and seventh days the temperature falls, sometimes reaching the normal. About the tenth or twelfth day, there may be an accession of fever, though not a true relapse. There are characteristic pains in the limbs, especially in the calves, rendering motion intolerable. Jaundice is the most characteristic symptom. There is a difference of opinion as to whether the jaundice is from obstruction or alteration of the blood; my own judgment favors the latter view. There may be nephritic symptoms—albumin, tube-casts, and blood in the urine are common and very serious symptoms. Bronchitis, epistaxis, purpura, have all been observed as accidental complications. The disease has been observed in vigorous men of middle age; rarely in women and children.

One case, clearly to me of this nature, I find I have recorded in 1883 under the title of "acute infectious jaundice"—a name which I would at present suggest for this disease, until its nature is more accurately determined.

This occurred in the case of a travelling salesman, thirty-eight years of age, of muscular frame and excellent general health, whom I saw in consultation in the north-eastern part of Philadelphia, a healthy district. He had suffered from some malarial symptoms in previous years, but not recently, and during his last journey had not been in a malarial district. He had not been especially fatigued, and no reason could be assigned for the onset of the disease, which made its appearance immediately on his return to his home.

I found the patient, on the evening of the third day, with a temperature of 105°, with a wild, excited expression, injected eyes, wildly delirious, with a strong tendency

to walk up and down the room, requiring the efforts of several men to restrain him. He complained of severe pain in the head and through the frame generally. He was already intensely jaundiced, the discoloration being peculiarly deep. This continued with increasing depth until his death, on the sixth day. He had already vomited several times; the stomach was non-retentive during the second day, but subsequently, with the deepening mental dulness, the stomach became quiet. The temperature sank to 102° on the third day, and continued to fall until toward death, when there was a rise again. The tongue was heavily coated, and soon became brown and dry. There were no pulmonary symptoms. The bowels were quiet, but responded to enemata. The spleen was distinctly swollen; the liver appeared normal in size. The pulse was rapid, 130, and this rapidity continued despite the deepening stupor and symptoms of blood-poisoning. The urine was not obtained until the end of the second day. It was then found albuminous, with epithelial and granular tube-casts. The amount secreted was small and intensely bile-stained. Death occurred in deep stupor, and was preceded by convulsive twitchings. The post-mortem examination showed no lesion of the brain; hypostatic congestion of the lungs; the spleen enlarged to double its size, very dark, and somewhat softened; the liver about normal in size, unusually dark, apparently very little, if at all, softened. Microscopic examination showed marked granular disintegration of many circumscribed areas of cells. The bile-ducts were pervious, and no obstruction was found to explain the jaundice. Of course, the mucous membrane may have been swollen during life, and the swelling have disappeared after death. There were no lesions of the intestinal glands; the kidneys were engorged with blood, and presented marked changes of infectious nephritis. The case was regarded as one of infectious disease of unknown type. Unfortunately, there were at that time no facilities for examining the blood and tissues carefully for microbes.

Clearly this acute infectious jaundice, which has close relations with *icterus gravis* of the older writers and of the present German school, has no relation whatever with the type of hepatic fever which I have described. It is connected in all probability with the entrance into the system of some specific infectious organism. I mention it to limit our field of discussion of hepatic fever more closely to the points I have proposed.

In conclusion: Although, as before stated, the term "hepatic fever" is more or less a misnomer, since there are various affections of the liver attended with other types of fever, yet there is a degree of usage which perhaps justifies retaining this name in connection with the particular paroxysmal fever I have described. It occurs at irregular intervals and is connected with angiocholitis, with more or less extensive occlusion of the ducts. At times there is no proof of the existence of pus or of septic action, although in the great majority of cases the pyrexia is associated with a purulent lesion at some point of the biliary canals. I will detain you but a moment to ask your attention to the analogy between these febrile attacks connected with the liver and "urethral fever," as it is often styled by surgeons. In doing so I will take the opportunity of referring to the admirable account of these two types of fever by Charcot, to whose instructive paper there

has been comparatively little of value added. We are all familiar with the sudden explosions of high fever, 103° to 105° F., usually preceded by a chill, which may occur in persons who have been subject to prolonged vesical or urethral irritation, and where the thickening of the mucous membrane and other coats of the urinary tract has occasioned more or less occlusion associated with the production of morbid discharges. For although urethral fever may occur without a previous morbid state of the urinary passages, it is far more apt to arise in connection with such lesions. The irritation caused by the passage of a catheter or the sudden development of complete occlusion at some point of the partially obstructed passages may, under such conditions, give rise to violent outbreaks of fever which are evidently strictly analogous with those we have studied under the name of "hepatic fever."

I must here bring these desultory remarks to a close, trusting that the imperfect record I have presented to you will be the means of eliciting, from the immense wealth of pathological material which this city contains, fuller contributions as to the frequency of hepatic fever and as to the various lesions with which it is most often associated. With such extended studies it is not too much to hope that the special conditions or agents which in certain cases determine its occurrence may be investigated with complete success.

ORIGINAL ARTICLES.

LABOR COMPLICATED BY A FIBROID TUMOR; CÆSAREAN SECTION.¹

BY JOSEPH S. GIBB, M.D.,
OF PHILADELPHIA.

THE case here reported, though not positively unique, was deemed of sufficient importance to challenge a careful study. In a series of seventeen cases of the Cæsarean operation tabulated by Harris, there were five in which the operation was done because of a new growth obstructing the pelvic outlet. In three of these the tumor was fibroid; in one, cancer of the cervix; and in the fifth, tumor of the sacrum. Two mothers were saved and three lost. In but one was an attempt made to remove the growth at the time of operation.

The subject of this sketch, L. J., a primipara, aged thirty-five years, had always been in excellent health, never having been confined to bed. In April, 1889, she married, and two months thereafter found herself pregnant. During her pregnancy she enjoyed exceptionally good health.

Her labor began Friday, March 7, 1890, in the early morning. During the day the pains were slight and infrequent, and the underclothing was soiled by a discharge of fluid with each pain. Late in the evening the pains became aggravated and I was summoned and saw her for the first time. The uterine contractions at this time were slight and infrequent, perhaps at intervals of half an hour. Her

general condition was excellent; she looked forward to her labor with no gloomy forebodings. Vaginal examination revealed a capacious pelvis. The progress of the finger in the vaginal canal was arrested by the presence of a large body which was apparently felt through the thinned-out uterine wall. The os could not be detected by the examining finger.

To my mind, at this time, it seemed as though some portion of the child was presenting, pushing down before it the thin uterine wall and the upper portion of the vagina, and displacing the os to a position back of the symphysis pubis and out of reach of the examining finger. Abdominal palpation revealed a peculiarly oblique position of the uterus and its contents. The head was evidently below and to the left, and in the abdominal cavity, whilst the extremities occupied the right hypochondriac region. The fetal heart-sounds were heard with the most distinctness about two inches below the umbilicus, a little to the left of the median line.

As the uterine contractions were very infrequent, and being uncertain of my diagnosis, it was deemed advisable to wait until there was sufficient dilatation of the os to enable the examining finger to be introduced. The next morning the condition remained unchanged—if anything, the uterine contractions were less frequent. The os still occupied a position too high to be reached.

The patient was still very cheerful and engaged in slight domestic duties about her room.

The next morning (Sunday, March 9th), a more accurate diagnosis was possible. The uterine contractions had increased during the night. The os was found high up, back of the symphysis, somewhat, though not fully, dilated—sufficiently so, however, to enable the examining finger to detect the head. It was now apparent that the body above referred to was not part of the child, but a *tumor* in the pelvic cavity, diminishing its calibre to such a degree as to preclude the possibility of the head passing. This tumor occupied the posterior portion of the pelvic space, encroaching forward to within one or one and one-half inches of the symphysis pubis. It seemed firmly fixed in the pelvic outlet. The diagnosis, however, was still very difficult, in consequence of the high position of the os. So, in consultation with Dr. James Collins, it was decided to anesthetize the patient to map out more fully the position of the growth, and then to do whatever might be considered necessary while she was in this state.

Accordingly, a consultation was held at 6 P. M., March 9th, at which were present Drs. Collins, Holmes and Longaker, and myself. After the patient was thoroughly anesthetized it was apparent to all present that the growth was a solid or semi-solid tumor, situated between the uterus and rectum, and pushing the upper portion of the vagina down before it into the pelvic cavity. It was equally apparent, the tumor being fixed and immovable, that it would be impossible to draw the head through the narrowed pelvic outlet without great and irreparable damage.

In the judgment of those present the only course

¹ Read before the Northern Medical Association, February 14, 1890.

that presented was an immediate abdominal and uterine section. Accordingly, preparations were hurriedly made for the operation. Antiseptic and aseptic precautions were carried out, perhaps as fully as is possible in private houses in the humbler walks of life, and where little time is permitted for preparation. One vessel—a bowl—was reserved for cutting instruments; another for hæmostatic forceps, clips, etc.; still another for ligatures, sutures, and needles. The previously prepared antiseptic sponges were placed in a large basin. All these were covered with boiling water.

The abdominal wall was shaved to the pubes, thoroughly cleansed, first with soap and water, then with ether, and finally with a solution of bichloride of mercury, 1 to 1000. Towels soaked in the bichloride solution surrounded the seat of operation.

An incision was made in the abdominal wall, extending from an inch above the umbilicus downward to a length of $5\frac{1}{2}$ inches, and rapidly carried down to the peritoneum. This membrane being incised to the same length as the abdominal wound revealed a uterus at full term, well and firmly contracted around its contents. The surface of the organ was seen to be covered with numerous tortuous veins. The uterine tissue seemed remarkably pale. A spot was selected at the upper portion of the body of the uterus and an opening sufficiently large to introduce a finger made with a scalpel and then rapidly extended to a length of 4 or 5 inches. The hand was immediately introduced into the organ and grasped the first presenting portion, which proved to be an arm; a foot was then grasped, the child turned and rapidly delivered. The child was asphyxiated and evidently suffering greatly from the prolonged compression to which it had been subjected; it was at once placed in the hands of Dr. Longaker, who after prolonged and skilful efforts succeeded in fully restoring it. Upon incising the uterus, and again after the delivery of the child, there was a gush of blood, but it did not seem to me greatly in excess of that of a normal labor. One fact remarked by all was the large amount of meconium in the uterine cavity—convincing evidence of the prolonged and ineffectual compression which the child had endured.

The placenta was attached a little to the left of the line of incision, and, almost immediately after the delivery of the child, appeared at the incision and was quickly delivered.

The uterus was now thoroughly freed from clots. Some difficulty was experienced in obtaining a complete and satisfactory contraction of the organ, but finally this was secured and the sutures were introduced.

The time occupied from the first incision to the introduction of the first stitch in the uterus was nine minutes. There were ten deep and about the same number of superficial Lembert stitches introduced.

After having secured the uterus from leakage the hand was passed into the abdominal cavity back of the uterus, and thence down into the pelvic cavity, to locate and, if possible, remove the growth which had caused the difficulty. The tumor was found to be a pedunculated fibroid, springing from the

centre of the posterior surface of the body of the uterus by a short and thick pedicle, and occupying a position partly in the abdominal and partly in the pelvic cavities. Its position in the pelvic cavity was in the posterior (Douglas) cul-de-sac. It had pushed the vagina downward and forward and had compressed the rectum back toward the sacrum. All of the pelvic cavity was occupied by this growth save a space anteriorly of about 1 by $1\frac{1}{2}$ inches. The growth had contracted firm adhesions in front to the uterus and vagina and posteriorly to the rectum. Laterally the adhesions were not so firm. Nevertheless it was immovable and fixed. It was deemed advisable to remove the growth, hence the adhesions were broken up with the finger, the tumor brought into the line of incision, the pedicle ligated, and the tumor removed. The bleeding from the torn adhesions was somewhat free, but not sufficiently so to demand ligatures. The abdominal and pelvic cavities were flushed with large quantities of hot water (which had been previously boiled) until the water returned uncolored. The cavities were then thoroughly sponged out until we felt assured there were no bleeding points left.

The abdominal wound was closed by eight or nine deep and four or five superficial stitches, a glass drainage-tube introduced into the pelvic cavity, the wound dressed in the usual antiseptic manner, and the patient put to bed and surrounded with hot bottles. The entire operation lasted one and one-half hours.

The patient's condition at the time of operation was far from satisfactory. Having suffered from irregular and ineffectual uterine contractions for sixty hours, she was worn out. The pulse was very rapid and weak. She took ether badly, requiring nearly half an hour for satisfactory anaesthetization.

Her condition otherwise was without incident until the uterus was incised; then there was sudden and alarming depression; the shock was so profound that she became pulseless at the wrist, and fears were entertained lest she might die before the operation was completed. However, upon the introduction of hot water into the peritoneal cavity, and the administration of digitalis and whiskey hypodermically, she rallied considerably. When she was placed in bed the pulse was still too rapid to count at wrist; the temperature under the tongue 94° .

The following is the record for the next ten hours: 10 P. M., pulse running, temperature 94° ; 12 M., pulse running, temperature 94° ; 5.30 A. M., pulse 150, temperature 95° ; 7 A. M., pulse 150, temperature 98° .

For the first six or eight hours there was a profuse discharge of sero-sanguinolent fluid from the tube; the tube was cleansed and the fluid absorbed by means of antiseptic gauze every hour during this period. At the end of the first twenty-four hours there was very little staining of the gauze, hence the cleansing process was lengthened to every four or six hours. No nourishment or drink was given by the mouth, but to allay the burning thirst, and to promote recovery from shock, rectal injections of hot coffee were ordered every two hours. The vagina

was kept well cleansed by injections of boric acid. There was very little lochial discharge.

The patient did not rally in a satisfactory manner. During the first twenty-four hours there was constant retching and nausea, though no vomiting. By the evening of the first day the belly had become slightly distended and tympanitic, temperature rose to 100°, pulse still remained about 150 or 160.

The second day ushered in still more tympany, increase of nausea, and some vomiting; a feeble running pulse, temperature ranging from 100° to 101°; and marked evidence of peritonitis. Drachm doses of magnesium sulphate every hour, champagne, and rectal injections of turpentine were ordered. The magnesium and champagne were rejected, and throughout the entire day there was constant nausea and vomiting with few intervals of rest. The tube remained sweet and the discharge practically *nil*. By the end of the second twenty-four hours the tympany had increased to an alarming extent, and a rectal tube was introduced high up in the bowel, but with no relief. She continued to sink, and died at 5 A. M. on the morning of the third day, fifty-five hours after operation.

Autopsy (eleven hours after death).—Belly greatly distended and tympanitic; tube free from discharge and without odor; the abdominal wound had united below, but failed to unite above. The intestines were greatly distended with gas, gushing into the abdominal wound when stitches were cut. Evidences of an extensive peritonitis present. The omentum was bound to uterus by bands of lymph. The surface of the intestines was covered with a thin layer of recent lymph which bound them to the uterus and abdominal wall in front. Bands of lymph also bound the uterus in front to the abdominal wall, and posteriorly to rectum. There were evidences of considerable pelvic inflammation at the site of the torn adhesions. The incision in the uterus appeared about three and a half inches in length; the uterine wound seemed tight and secure, but on cutting stitches it was found that no union had taken place. The *internal or mucous coat of uterus was in a sloughing condition* and covered with dark-gray secretion. In some places the mucous membrane was entirely denuded, showing the muscular coat.

The site of the pedicle was seen to be in the centre of the body of uterus posteriorly. Both ovaries were cystic. There was little or no fluid, either serous or purulent, in the pelvic cavity. The kidneys were congested, though otherwise healthy.

In reviewing this case there are many features worthy of consideration. I desire, however, to submit but a few for discussion.

There can be no question as to the necessity for the Cæsarean operation. Here was an immovable, fixed tumor filling up the pelvic cavity and diminishing its calibre to such a degree as to leave but one or one and a half inches of available space through which the child could pass.

Granting then the necessity for, and the wisdom of, our course, the first feature that suggests itself is:

Did we err in deferring the operation to so late a period? Would the chances for success have been increased had we operated Friday night, twelve hours after the commencement of labor? It was stated in the notes of the case that after the uterus was incised it was found to contain a large quantity of meconium; again, at the autopsy, we found the uterine mucosa in a sloughing condition. The first condition noted is, except perhaps in breech presentations, indisputable evidence of the powerful contraction of the uterine muscle; the second condition is likewise evidence of the ill effects of these prolonged and ineffectual contractions.

In the series of cases tabulated by Harris¹ we find that nine women recovered. Of these, four were operated upon before the advent of labor; one just as labor had begun; two in ten and twelve hours respectively, and there are but two successful cases where the operation was deferred a longer period.

In the light of the autopsy and in the face of statistics of favorable cases, we are forced to but one conclusion, viz., that the chances of a favorable result would have been immeasurably increased by an earlier operation. To have the best possible conditions we should have known of the existence of the growth previous to the labor. This would have given ample time for preparation. The hurry and flurry of arrangements for the operation, with its consequent ill effects on the *morale* of the patient, would have been avoided. The condition of the uterus, as revealed at the autopsy, would not have occurred; and last, but by no means least, our patient would not have been worn out by the hours of suffering from ineffectual labor.

This case stands as an admirable example of the necessity for the examination, both vaginal and abdominal, of our obstetric cases previous to labor.

In justification of the delay of about forty-eight hours, which was the period of time from my first visit to the time of operation, I would call attention to the notes of the case, and candidly confess that I would be unable to do differently should a similar case occur. The character of the contractions deceived me. It was not apparent that labor was really in active progress for at least thirty-six hours after my first visit.

As to the diagnosis of the tumor, such I believe was absolutely impossible without the administration of an anæsthetic; and believing as I did, that the body felt was a portion of the child, there was no reason for such administration, as the child had not engaged, nor were the contractions or the condition of the patient at this time sufficient to warrant it. However, I am firmly convinced that where there is the least element of doubt in our diagnosis we should

¹ Harris: American Journal of the Medical Sciences, February, 1890, p. 118.

use every means at our command to clear up this doubt, even to the administration of an anæsthetic.

The second proposition I have to offer is: Would a supra-vaginal hysterectomy (Porro operation) have given us a better chance for success?

The autopsy disclosed a uterine mucosa in a sloughing condition, which, in our opinion, had much to do with the fatal result. The operation spoken of would have effectually removed this source of infection. On the other hand, a Porro operation would have consumed much more time and added greatly to the condition of shock.

It is to be remembered that when the uterus was incised there was an alarming depression from which our patient rallied very slowly.

In our judgment a supra-vaginal hysterectomy would in no wise have averted the unfortunate result; on the contrary, it would have probably hastened it.

The third and last proposition: Was it an error of judgment to remove the growth in view of the exhausted condition of the patient?

After mapping out the position of the tumor, and being fully assured that the adhesions were not so extensive or firm that they could not be readily broken up with the finger, the temptation to remove it at this time was almost irresistible.

So far as the element of time is concerned, this could have had but little influence, for the removal of the growth occupied not more than five or ten minutes.

As regards the tearing of the adhesions and the subsequent inflammatory condition, the autopsy disclosed marked evidences of pelvic inflammation at the site of the torn adhesions. I am not convinced that the removal of the growth, and the resulting inflammatory condition, may not have added to the elements which brought about the fatal result.¹

817 FRANKLIN STREET.

NOTE ON THE USE OF ESERINE IN ULCERS OF THE CORNEA.

BY G. E. DE SCHWEINITZ, M.D.,

OPHTHALMIC SURGEON TO THE PHILADELPHIA AND CHILDREN'S HOSPITALS.

IN THE MEDICAL NEWS of March 8, 1890, Dr. H. F. Hansell records the results of some clinical observations on the treatment of abscess and deep ulcers of the cornea, and concludes that eserine is superior to atropine. While far from willing to discontinue the use of atropine, my experience, in selected cases, especially in the wards of the Philadelphia Hospital, is in exact accord with that given

by Dr. Hansell. In patients of generally feeble powers, especially if past middle life, and if the lesion is situated in the periphery of the cornea, eserine acts more favorably than atropine. Whether this action depends upon its property of lowering tension, provided the intraocular tension is increased at the time of its application, or upon its asserted power of checking the migration of white blood-corpuscles, or because it contracts the pupil, enlarges the surface of the iris, and dilates the ciliary arteries, has not been definitely settled. The clinical fact remains that it has the power of limiting the sloughing process, and in the opinion of Brudenell Carter is "the most potent medicinal agent for the fulfilment" of this indication, having "been the means of saving numbers of eyes which, without it, must have perished."

Hospital case, a male, aged fifty-five, in feeble general health. A ragged ulcer, with unhealthy edges, was situated at the upper and inner border of the cornea, marking the position of what previously had been an abscess with elevated surface. The treatment comprised atropine, boric acid solution, hot compresses, and tonics. The process was unchecked, and each day the appearance was more unfavorable. All remedies were discontinued and eserine solution substituted for them. The effect was almost immediate, and within ten days firm cicatrization had taken place. At no time was there photophobia. The patient had some brow pain.

This case is worthy of record because the cure may be ascribed entirely to the eserine. Other remedies had failed and this drug was employed to the exclusion of hot compresses and antiseptic lotions, the almost universal use of which, in the opinion of Mr. Nettleship, "renders it difficult to draw trustworthy conclusions as to the effect of eserine." If there is iritis, eserine, as a rule, is not advisable; but the mere presence of posterior synechiæ, the result of former inflammation of the iris, does not contraindicate the remedy.

Hospital patient, male, aged twenty-five, with irregular pupils, the result of iritic adhesions, presented himself on account of a large sloughing ulcer of the right cornea. The cause of the ulcer could not be ascertained (the patient spoke Russian only). The usual atropine treatment was not efficacious, while under the influence of eserine cure resulted. After cicatrization was complete, atropine locally, together with mercury and iodide of potassium, was ordered, with marked benefit to the old iritis. In this case, however, hot compresses and stimulation of the ulcer were also employed.

Dr. Hansell considers solutions of eserine stronger than two grains to the fluidounce inadvisable; Carter has suggested four grains to the ounce. My experience is limited to weaker solutions, one-fourth to one grain to the ounce; in this way one of the

¹ The child weighed at birth nine pounds full. At this day, the thirteenth from birth, it remains strong and vigorous. The uterine fibroid weighed two pounds.

objectionable symptoms following the use of the drug—headache—is reduced to a minimum. Operative procedures, in the opinion of Dr. Hansell, should be limited to a division of the anterior surface of the abscess and evacuation of the pus. My own preference in open and sloughing ulcers is for the actual cautery. This may be used, if necessary, after division of the anterior surface of an abscess. I have employed this method in many cases and in various types of corneal ulcers with uniform success; in a number of instances of decided hypopyon-keratitis, complete absorption of the pus has followed a thorough application of the thermocautery. Dr. Hansell's protest against the common habit of prescribing cocaine in abscess of the cornea and other severe inflammations of this membrane, an injudicious method of practice ably condemned by the publication of Jackson, of this city, deserves emphasis.

MEDICAL EXPERT TESTIMONY AND ITS ADMISSIBILITY.

BY E. SPENCER MILLER,
OF THE PHILADELPHIA BAR.

THE profession is so frequently called upon to testify on medical subjects in courts of law, that it has become quite important for the physician to know what are the essentials of legal competency to speak as an expert witness.

One is constantly surprised to find that subjects of every-day familiarity are yet, in science, topics of hot discussion. The question as to what extent of experience entitles a man to be heard as a medical expert witness, appears to be one of these vexed subjects.

A case decided by the Supreme Court of Wisconsin upward of a year since, and officially reported a few months ago, brings up this question in a most striking way. A report of this case appeared in the *American Law Register* for August, 1889, together with a very full annotation—citing precedents throughout the country—by Robert G. Morrison, of Minneapolis, Minn.

A prisoner, already committed to the State prison to serve a life sentence under conviction of murder in the first degree committed by arsenical poisoning, was relieved of his term of imprisonment, and, by an extension of the legal principle which generally forbids a second trial in capital cases, was set at large to live out his days scot free, only because the jury upon whose verdict his sentence was pronounced had been allowed to hear the testimony of two doctors who in their practice had never had actual experience in cases of irritant poisoning.

John P. Soquet was put on trial in April, 1888, for the murder of his wife, which was committed

fifteen years before. Prior to 1873 he had lived with his wife and their seven children upon a farm in Brown County, Wisconsin. August Mainsort and his wife lived a mile away. It seemed that criminal intimacy existed in June, 1873, between Soquet and Mainsort's wife. Soon Mainsort suddenly died. Soquet assumed direction of his burial, and showed much zeal in hastening the ceremony. Before burial an inquest showed a quantity of arsenic in the dead man's stomach. A few days later Soquet's wife died, and the survivors seized the auspicious moment to wed each other. The wife's death had occurred under circumstances casting very strong suspicion upon Soquet. The physician attending her had diagnosed the symptoms as those of corrosive poisoning, and then, apparently suspecting foul play, had withdrawn his services. In the course of the trial this physician was called to describe the occurrences and prove the cause of death. He was asked: "What are the symptoms of arsenical poisoning?" Before an answer was permitted he was questioned as to his knowledge and experience. It appeared that he had been for ten years a member of a medical society and had practised twenty-five or thirty years. No case of poisoning, however, had come before him. He had only studied that branch of practice in common with others. Against the protest of counsel for the accused, this doctor was then allowed to state the symptoms of arsenical poisoning. As specified by him they tallied closely with those observed in Soquet's wife. Upon further questions in cross-examination, the witness said he had never seen a death from irritant poisoning—knew the symptoms only from "theory," his "knowledge as a student of medicine," and from books—without practical observation. Another doctor, with still less general knowledge, and with no actual experience in cases of poisoning, was called in corroboration. Upon a description of the symptoms observed he diagnosed the case as indicating arsenical poisoning. Two other physicians, who had had actual experience in the treatment of arsenical poisoning, testified, and their statements were to the same effect.

The jury found Soquet guilty, and the court pronounced sentence of imprisonment for life. On appeal the Supreme Court reversed the decision. As above indicated, this action sent him back to liberty, and, we may infer, to the embraces of his blood-bought consort. The national constitution prohibits putting a person accused of murder to the jeopardy of trial more than once.

The reasoning of the Supreme Court in the course of its opinion goes very far, much further than was necessary to justify a reversal of the judgment.

Judge Orton, who delivered the opinion of the court, relied upon the reasoning and authority of a

prior case (*Boyle vs. State*), wherein a somewhat different question was decided.

It was there held that a witness cannot testify to the published statements of an author upon a question of medical science.

After referring to the well-established doctrine that a medical book itself cannot be offered in evidence, he quotes from the opinion of the court in *Boyle vs. State* as follows: "Certainly, if the book itself cannot be read in evidence to the jury, the witness cannot be permitted to give extracts from it as evidence, depending upon his memory for their correctness," etc. Judge Orton then proceeds: "The testimony of such medical witnesses is at least hearsay—what medical books and teachers taught or told them, repeated from memory. The learned counsel for the State asks this court to review and overrule that case as not supported by authority." But it is supported by authority and equally by reason.

Perhaps it would have been wiser if the counsel for the prosecution had argued that the two cases were very different. The weight of authority is *with Boyle vs. State*, but *against Soquet vs. State*. That the decision in *Soquet vs. State* is in conflict with the current of decisions in this country and in England is very clearly shown by Mr. Morrison's notes. We propose to present the principles which thus appear to be established and the reasons for them.

At the foundation of the jury system lies the theory that the object to be sought is such a decision of the litigated question as the *judgment of the people at large would affirm*. This is the key-note of our whole structure of government. The Constitution of the nation and that of every State are the formulated will of the respective peoples. The subordinate law, too, whether written or unwritten, is the work of the people through the medium of legislative representatives or judges whom the people select. Hence no more appropriate body could be found to decide questions which arise in carrying into practical effect the laws thus sprung from the people, than one taken from and quite in accord with the great body of the people. The same theory, worked out to its logical conclusion, will harmonize and show the basis of almost every rule of evidence.

The assumption is, proceeding from the theory above stated, that the combined judgment upon all non-legal questions of a group of men—as great in size as may be, consistently with convenience and wieldy proportions—taken from the mass of the people by lot, and so, in some degree, representative of the whole body of citizens, will produce a result more likely to satisfy the public mind, and, indeed, more likely to be just, than the verdict of any other practicable tribunal.

Upon this view the system depends, in a large measure, for its justification, and practical test vindicates its theory. As long as this method of trial does not tend to gross miscarriage of justice, perhaps the object of securing the people's confidence in the issues of legal proceedings, is more important than that of attaining the greatest correctness in the matter of sifting testimony.

In general, the system requires that all evidence be confined to the narration of primary facts observed through the senses of the witness. His opinion upon matters as to which common judgment applies, cannot be received, because to accept it would be to forego in some degree the fruit of a popular decision. The object is to obtain the opinion of the *jury*, and if litigant parties may, at their will, present to the jury for their guidance the judgment of other persons, the benefits of the system are endangered.

In most cases before a jury, however, questions arise as to which popular knowledge is inadequate. It would, in such cases, be absurd to deny a jury all light save the mere narration of facts observed through the external senses. Where the issue is what percentage of metal a certain lode in a given ore-bed will yield; whether a specified plan of bridge structure, with members of a particular size, will bear burdens of a required weight; what is the value of a certain remote tract of wild lands; whether a peculiar observed state of the stomach and intestines indicates poisoning, and if so, what agent: in all such cases it would be extravagant to confine the testimony adduced to a mere narration of facts noted by external senses of the witness. No man would be satisfied with such data if the matter came up for consideration in his personal affairs, and therefore, when, in performance of a public duty, he deals with the interests and, perhaps, the life of another, a due solicitude requires that he should have further aid. If, then, this be the general view regarding such matters, the fundamental principle of the jury system requires that it should be applied in the trial of causes. Otherwise the jury's verdict could not represent what would be the popular judgment.

A few other exceptions exist to the rule that opinions are inadmissible, but it is unnecessary to refer to them at present.

The next question is: "How shall it be decided what matters thus call for expert opinions and what must fall under the general rule which rejects testimony in such a shape?" To find an answer we fall back upon the fundamental principle that the jury's verdict owes its value to the fact that it is supposed to be an exponent of that which would be the popular judgment. When any point arises, in a trial, which belongs to a plane of study or experience commonly recognized as quite above the general level of information, opinion-testimony upon that

point is admissible. If a man of ordinary prudence would defer action upon such a question, were it to arise in his own affairs, until he had taken the opinion of one having special acquirements on the subject, then the jury may have the like aid. Some assistance is afforded in the application of this test by the fact that, in those subjects as to which deficiency of popular comprehension is generally recognized, the demand for advice or services from persons specially qualified is likely to give rise to a class of individuals trained to answer the demand. Hence, when the inquiry before a jury raises a question belonging to some sphere which is assigned to a thoroughly recognized vocation marked by the necessity of special training for it, then the opinion of a competent person upon that question is generally admissible. In this view the test of admissibility of opinion-evidence is sometimes stated to be that such testimony is competent only where the considerations appertaining to the point to be proved belong to the dominion of a recognized vocation exacting a particular learning or experience.

The remaining point to be considered is: What should be required—where a question calling for expert testimony has arisen—of a witness who is presented to give his opinion as evidence? What is an expert?

This is the point which came up in the case of *Soquet vs. State*.

What indication is to be drawn from the fundamental consideration which was stated? Following the reasoning heretofore used, the person offered must be one of so great proficiency that a prudent man, where his own affairs are involved, would be satisfied to accept such guidance.

It might reasonably be said here: "Why not let the jury decide whose opinion they will hear?" "If the design be to arrive at what would be the popular judgment, by submitting the case to a body of men taken as representative of the people, will not the conclusion of that body upon the degree and character of proficiency in any science, needful to make a man's opinion worthy of credit, be the truest guide?" The same argument might be urged as to every other question regarding the admission of evidence. An answer is quite obvious. Were the popular judgment actually taken upon a question, the conclusion reached would be, in some measure, the result of guidance by a comparatively few individuals of peculiarly strong mental grasp and power of influence. The views of these persons would sway the minds of their weaker fellows. Owing to the necessary limitation in number of the jury panel, it must frequently happen that no such person is to be found in the jury. In no point would the influence of such persons be more needed than in deciding just such questions as those which we are now considering. Since they must, as has been said, be frequently lacking, the decision

of these problems is assumed by the court. The degree of capacity needful to judge of the veracity of a witness, the probability or improbability of narrated facts, is very much below that competent to limit correctly the province of opinion-evidence. Moreover, it results necessarily from this same limitation of numbers, that the process of decision will not have that character of composition out of the elements of all individual and factional tendencies, which popular arbitration, applied under absolute conditions, would afford. It is further to be noticed that practical considerations, such as the necessity of limiting the time to be consumed by a litigant in the presentation of his case, claim attention. The patience of a jury might serve to hear very many witnesses whose competency is so slender as to give but little satisfaction. Economy requires that a litigant should present such a class of witnesses as will speedily afford a good weight of authority, and a judge who, unlike a jury which is empanelled for but a single case, is charged with responsibility for the prompt disposition of business throughout the entire term of court, is a better dependence for regulating matters of despatch.

We have thus reached a general understanding of the tests which rule the admission of expert testimony. Whenever a question of fact arises before a jury, involving considerations generally recognized as out of the sphere of common information, expert evidence is admissible to furnish light upon these considerations. Upon such questions, opinion-evidence may be received from any person whose acquirements are such as would satisfy the public in general to act upon his or her conclusions as to matters of personal importance to themselves.

A practical point may here be called to attention.

When the law attempts to discriminate between persons whose attainments in a certain direction constitute their capital and stock in trade, it stands upon delicate and difficult ground. This is especially so when the vocation is one of those often regarded as particularly elevated and dignified, which are known as the learned professions. Hence there is a very noticeable tendency in the decisions, to admit the testimony of persons generally where they are well recognized as belonging to any such peculiarly learned or skilled body—so long as that repute is not held by deception or artifice—without making a close inquiry into the extent and frequency of their experience or research.

Let the tests which have thus been arrived at be now applied to the case in point.

No question appears to have been raised whether the point involved in *Soquet vs. State* was one calling for expert evidence. Under the principles which have been stated, there was no room for doubt that such evidence was admissible. The

only doubt was whether the two physicians who had never seen cases of irritant poisoning could properly be allowed to tell the jury what the symptoms of such a disorder are.

It can hardly be contended that the public in general give credit to only the results of personal experience by that physician from whose mouth they receive the opinion. Most persons would prefer a judgment formed from general familiarity with and comparison of those records of the experience had by other men whose intelligence and innumerable opportunities for observation made them famous, than that of a man whose information is only empirical. No doubt much immediate observation of like cases, by the practitioner whose advice may be received, is important, but—certainly upon such a point as the signs of any given poisoning agent—a general knowledge of the authorities would seem to be more essential. It must often be unsafe to rely upon observation of other cases. Individual peculiarities of the patient must often cause a variation of external indications. Observation of outward aspects may not deduce the essential features of that condition which is their cause, and so may give little aid to the practitioner. The books, on the other hand, will state both the probable range of variety in the symptoms, and the character of that radical disturbance of which the symptoms are exponents. Moreover, physicians who have not had actual personal experience in just that disorder whose symptoms they are called upon to describe, are not necessarily quite without such aid to their theory as comes from immediate observation. Experience in more or less different cases must throw side-lights which will afford much service. A multitude of analogies and similarities exist, which tend to make one line of experience furnish a valuable aid to quite different practice.

No doubt a father who seeks medical advice for his child in dangerous illness would much prefer to employ a physician who adds actual experience to book-study of the disease to be treated. But this is not the question. There is no rule of evidence which excludes a witness merely because a person *likely to enlist more confidence* can be found. It is enough that people in general would give weight to the views of such a one for guidance in matters of importance to themselves.

It would, therefore, seem that, in order to justify the view laid down at the beginning of this paper—that the established precedents are adverse to Soquet *vs.* State, it is unnecessary to draw into the reasoning that practical—somewhat illogical—point of the law's unwillingness to discriminate in point of competency between members of a learned profession.

The reasoning of the court, of which the chief part is above quoted, seems very far from persuasive.

There are many reasons why a medical book should not be put in evidence by giving it to the jury to read or by reading it to them. There is danger of the author's meaning being misunderstood. No opportunity is furnished the adversary for ascertaining by cross-examination just how his language is to be taken. In almost every book, probably, passages are to be found which would seem to be contradictory of each other. Either one, if taken alone, would probably convey a misleading idea. Perhaps a perusal of the whole book will be necessary before some of the passages contained in it can be thoroughly understood. Hence it would be quite unsafe to allow an extract to be read to the jury.

No doubt it follows, as the court says, that the recollection of any person, whether physician or not, upon some extract from a certain specific author, would be inadmissible. It is quite another and unjustifiable thing to hold that the product, in a mind specially trained and cultivated in the subject, of a personal study including not only the book in question but the books of others upon the same or kindred subjects, is not admissible.

The deduction which we have attempted to make from very radical principles of law, leads, therefore, to these results:

I. Expert opinions are not admissible, except where the point in question is plainly out of the range of general information.

II. When matters of this sort arise in courts of law no person will be admitted so to give his opinion unless his training has been such as would lead the public in general to rely upon his judgment as to like matters.

III. The law does not judge of expert admissibility upon the basis of any specific opportunity or opportunities had by the witness for acquiring knowledge of the particular point arising. It will neither admit a person as an expert witness upon a mere showing of occasion in his experience for acquiring knowledge upon the particular point in question, nor will it exclude one who shows assuring general familiarity with the branch of knowledge concerned simply upon the ground that his experience has not included any case presenting the same facts as that before the court.

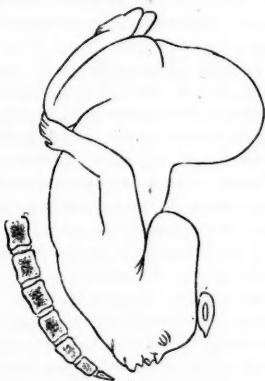
CLINICAL MEMORANDA.

OBSTETRICAL.

Face Presentation, complicated by a Spinal Tumor; Craniotomy.—The patient, aged twenty-six, was a primipara, small, but well developed, born in America. On November 3d, 6 A. M., I found her in labor. Upon examining her abdomen, I noticed a peculiar peaked or dome-shaped appearance in the hypogastric region. It felt hard and hemispherical, and conveyed the impression

that it might be the foetal head. The heart-sounds could be heard most distinctly below the umbilicus a little to the right of the median line. A twin pregnancy was suspected, but a second heart-sound could not be detected. The mother of the patient said that she had noticed this peculiar projection several months before. That I had to deal with a monstrosity or a spina bifida was to me the most plausible explanation. Upon examination the os was found to be dilated sufficiently to admit two fingers, revealing a full face presentation. In fact, the extension was so extreme that the forehead was pushed behind the symphysis pubis, and the chin pointed to the coccyx. (Fig. 1.)

FIG. 1.



Various methods for reducing the extended head were resorted to, but without avail. Version was attempted, but likewise failed. The patient being now considerably exhausted, and the uterine forces flagging, the forceps were applied, and the forehead was forced from behind the symphysis pubis to bring the brow in position for craniotomy. Smellie's perforator was used, and great difficulty was experienced in preventing injury of the maternal parts, as they were much swollen from the pressure of the head and the prolonged manipulation. The head was delivered, and prompt expulsion of the child was looked for. With all the physical force which could be applied with safety to the mother, and without pulling the child to pieces, it could not be delivered. The arms were brought outside, but without any appreciable effect. Evisceration was next resorted to, but this did not diminish the bulk sufficiently to admit the hand or fingers for exploration. Dr. Joseph Price's crushing-forceps were applied to the pelvis of the child with telling effect. With the assistance of Drs. M. and J. Price, I worked for nearly four hours, when the child was finally delivered.

The combined force of the crushing and powerful traction burst the tumor into the abdominal cavity of the child, and thus the bulk was diminished. The skin covering the tumor was stripped off by the pubis.

It is a question in my mind whether Cæsarean section would not be a safer procedure in cases such as just described. At one time, when delivery seemed utterly hopeless, Cæsarean section was thought of, but, as her injuries were already so great, and her condition so bad, she could not have survived such a procedure. A large

abscess formed in the vagina. Three weeks later she had recovered.

The child was a male, weighing about five pounds, poorly nourished, and with a club-foot. The sacrolumbar region presented an oval, slightly lobulated tumor larger than a child's head. The tumor felt doughy to the touch, with here and there a fluctuating point. The skin was neither discolored nor adherent, except at a point over the middle of the growth, where there was a dimpled adherent point resembling the umbilicus. An incision in the median line through the skin, superficial fascia, and fibres of the gluteal muscles disclosed the much thickened coverings of the spinal cord.

FIG. 2.



About three ounces of a clear fluid, apparently cerebrospinal, escaped from the sac. The defect in the spinal column consisted of the entire absence of the fourth and fifth lumbar vertebræ, sacrum, and coccyx. About one-fifth of the tumor extended into the abdominal cavity

through the bony defect. The cord appeared normal above the seat of the growth.

The microscopical appearance, as described by Dr. Morris Booth Miller, was as follows: "Very small multinuclear cells, round, of uniform size, with no interstitial matter whatsoever. The general character of these cells approaches that of embryonal epithelium more than any other structure. There are no cells of a sarcomatous nature."

This case presents sources of perplexity hard to overcome. The only logical conclusion which can be drawn from the position of epithelioid cells within the meningeal coverings of the spinal cord is, that the source of these cells is the central canal of the spinal cord. Proliferation of the epithelial cells of the spinal canal is described by Ross in his *Diseases of the Nervous System*, under the head of Periependymal Myelitis or Syringo-myelitis. Speaking of the morbid anatomy of this affection, he says:

"In periependymal myelitis the epithelioid cells which form the lining membrane of the central canal, and the cells of the neuroglia which surround it, undergo proliferation, so that the central gray column becomes altered in structure. In some cases the tissue appears to consist chiefly of epithelioid cells which are irregularly polyhedral in form, and which may be pressed closely against one another, or separated by a variable quantity of amorphous material."

He goes on to say that this morbid process is usually found in the cervical cord, and that the enlargement of the central canal rarely exceeds the dimension of the finger. He does not mention the occurrence of congenital syringo-myelia.

It would be plausible to suppose that the absence of neuroglia cells in the case was due to the fact that the rapid growth of the epithelial cells outran that of the neuroglia proliferation, and that the remains of the spinal cord might be found along the sides of the tumor in thin layers.

JOHN S. MILLER, M.D.

PHILADELPHIA.

HOSPITAL NOTES.

DOUBLE HYDROCELE. CHRONIC ABSCESS OF THE FEMUR. RADICAL CURE OF INGUINAL HERNIA.

Abstract of a Clinical Lecture delivered at the Roosevelt Hospital, New York.

BY CHARLES MCBURNEY, M.D.,
ATTENDING SURGEON.

CASE I.—This case is interesting both on account of the history and on account of the shape and tension of the tumors. The man states that about one year ago he first noticed an enlargement on the right side of the scrotum, which he is positive disappeared entirely after using some liniment. The swelling returned about four months ago, and since then the other side has swollen. One tumor has already been punctured, and its fluid contents removed, but at present the sac is again greatly distended with fluid. The tumors are translucent and perfectly irreducible, and it is fair to suppose that we have to deal with one of the ordinary forms of hydrocele, *i. e.*, of the tunica vaginalis. The shape is different from that of most hydroceles, the tumor pass-

ing well up into the canal, and being very tense and feeling solid at the lower portion. The constrictions which give these tumors their peculiar aspect are due to thickened sac wall at these points. It is probable we shall find that the testis lies within the sac in both cases. The operation which has been selected is known as Volkmann's operation, and consists in incising the sac and stitching the edge of the skin to the cut edge of the serous membrane so as to provide against primary union, and to obtain complete closure of the sac by adhesion from within. This operation was chosen in the present instance in preference to the methods by injection of iodine or carbolic acid, which are both excellent methods, because this patient is a working man and is anxious to be radically cured without danger of recurrence. It is probable that he will be cured in about two weeks.

A straight incision was made over the right sac through all the tissues, and as a precaution against wounding the testis the opening in the sac was first made at the upper part, so that the finger could be introduced and the exact position of the testis determined. The fluid in the sac was under such great pressure that it was forced out through the opening for a distance of one or two feet. The right tumor proved to be an ordinary hydrocele with the testis somewhat enlarged, and with one or two points of adhesion. The left sac was similarly treated, and the testis was found adherent to the anterior wall immediately in the line of the lower portion of the incision. Dr. McBurney remarked that if the precaution of opening the upper part of the sac first had not been taken, the testis would have been split open by the knife, an accident that he had once witnessed during the performance of this operation. This sac ran into the inguinal canal as far as the internal ring. Having completed the suturing of the serous membrane to the skin, the cavities were irrigated with Thiersch's boro-salicylic solution, drainage tubes introduced, and the wound dressed with powdered iodoform and a packing of iodoform gauze. Iodoform gauze compresses over this—protected from possible soiling by rubber tissue—were applied, and the whole secured by a spica bandage. The tube should be removed in three days, and after this the packing changed on alternate days.

CASE II.—The attention of the class was next invited to an interesting case of bone disease, which in its insidious development, and uniform enlargement of the whole of the affected bone, resembled quite closely certain cases of a very subacute form of osteomyelitis resulting in the formation of pus.

The patient, twenty one years old, stated that one year ago, after some exposure, he felt pain in the lower and inner side of the right thigh, which was unattended by chill, fever, or any special illness. He received hospital treatment consisting of various external applications for about three months, during which time no sinuses appeared. There had been only slight disability and he came to the hospital chiefly on account of a fluctuating swelling on the outer side of the thigh. The whole lower half of the thigh was found to be at least one-third larger than the other portion. There was a general enlargement of the lower half of the shaft of the femur, and, on the outer side, a fluctuating swelling

which upon manipulation discharged, for the first time, a few drops of pus.

After applying a constrictor to the limb, the sinus was explored and found to lead to a sac of considerable size filled with tuberculous-looking granulations. The sac was laid open, and at its extreme lower end there was a minute opening passing directly backward against the shaft of the femur, a considerable distance from the superficial portion. A part of the bone was bare, and the probe passed directly into the shaft for some distance. This condition of affairs indicated a slowly forming bone abscess. A long, thin sequestrum was next removed. Leading from the first cavity was a sinus extending up to the anterior portion of the femur, although there has been no apparent suppuration in this part of the bone. The disease has extended into the epiphysis of the femur, and the fingers, reaching down close to the cartilage, still detected diseased tissue. There was also a cavity in the soft parts in the popliteal space communicating with bone, and filled with soft granulations. It extended within one-quarter of an inch of the surface on the inner aspect of the femur. This was also laid open. The limb was kept elevated while the Esmarch bandage was being removed. Two points bled freely, and as they were too close to the bone to be properly secured by ligatures, it was decided to leave the clamps *in situ* for two days. The wound was necessarily a very extensive one, and after packing it with iodoform gauze and putting on the usual antiseptic dressing, a wooden posterior splint with a footboard was applied.

CASE III.—A man, twenty-five years of age, was the subject of the next operation. He had had an inguinal hernia on the right side for five years. It had given him considerable pain and inconvenience and a truss was quite painful. The patient was in good condition; the hernial mass and ring were comparatively small so that the canal had not been much distended, the hernia coming half-way into the scrotum and emerging away from the external abdominal ring, and the hernia was easily reduced, so that the case is a favorable one.

Dr. McBurney said that he would perform his usual operation, which consists in cutting down on the sac, opening the canal, ligating the sac at the level of the internal abdominal ring, and afterward so treating the wound by sutures and packing as to keep it open during the whole process of healing, with the exception of the part occupied by the spermatic cord.

The pillars of the ring were readily exposed, and the anterior wall of the canal found to be very weak. In order to facilitate the handling of the sac, the canal was next opened, thereby exposing a small hydrocele of the cord, behind which was the hernia. The hydrocele was treated by splitting it open completely. The next step was to separate the cord from the sac, which is always comparatively easy in the canal, but sometimes exceedingly difficult lower down. Dr. McBurney said that the success of this operation depended entirely upon the absolute and complete removal of the entire sac, and he had no faith in any operation that did not contemplate this. The sac was separated from the cord up to the internal abdominal ring, and until it was possible to apply a ligature on a level with the peritoneum. The sac was next opened, a portion of omentum ligated,

and the stump returned to the abdominal cavity. In applying a ligature to the stump, it is not applied very tightly—only enough to stop the bleeding, and not enough to injure the soft vessels and give rise to secondary hæmorrhage. After the stump was reduced the sac was pulled down so as to "take up the slack" in the peritoneum, and while held vertically, the operator's finger was introduced into the sac to make sure that there was no intestine within. While the finger was still in this position, the assistant tightened the ligature at the highest possible point. The sac when cut away was almost as thin as a cobweb, and, therefore, useless as a pad or plug to prevent the return of the hernia. Several stout sutures were then introduced so as to bind together the tissues forming the upper wall of the wound, and a similar series of stitches held together the tissues forming the lower wall. As each stitch was tied, the skin was deeply inverted. This mode of suturing secures healing by granulation from the very bottom of the wound, but as this arrangement makes the wound unnecessarily wide, two or three tension sutures with Lister's lead plates were introduced. These greatly diminished the width of the wound. The usual antiseptic dressing and a spica bandage completed the operation.

MEDICAL PROGRESS.

Salolized Collodion for Rheumatic Joints.—The following prescription, to be used as an external application in acute rheumatism, is quoted by the *London Medical Recorder*:

R.—Salol, } of each . . . 4 parts.
Ether, }
Collodion . . . 30 " —M.

Test for Exalgin.—According to the *American Journal of Pharmacy*, exalgin may be distinguished from acetanilid and phenacetin by the following simple test: 1 grain is dissolved in 2 cc. of chloroform and 20 cc. of petroleum ether added. If the exalgin is unadulterated the solution will remain clear. Moreover, phenacetin requires 20 cc. of chloroform and acetanilid 6 cc. for solution.

Prescription for Rickets.—KASSOWITZ prescribes the following mixture to children suffering from rickets:

R.—Phosphorus . . . ⅓ grain.
Liparin . . . 7½ drachms.
White sugar, } of each . 3½ "
Acacia, }
Distilled water . . . 1¼ ounces.—M.

One teaspoonful three times daily.—*Der Kinder-Arts*, January, 1890.

Herpes Menstrualis.—Contrary to many writers, BERGH (*Monatshfte f. praktische Dermatologie*) believes herpes genitalis to be as frequent in woman as in man, his opinion being based upon the observation of 877 prostitutes in Copenhagen. Among these patients he noted 644 cases of herpes occurring about the menstrual period. With some women herpes was an invariable accompaniment of menstruation; with others it only occasionally appeared. The cause, he believes, is a disturbance of in-

nervation. The most usual seat was on the labia majora and adjacent parts; in five the uterus was involved. In a few the eruption appeared not only on the genitals; but on the face. The author does not believe that herpes appears only in those who have suffered from venereal diseases, as he has seen it in women without a venereal history.—*Centralblatt für die medicinischen Wissenschaften*, February 22, 1890.

Treatment of Post-partum Hæmorrhage.—DR. DIRSKA, in the *Berliner klinische Wochenschrift*, February 24, 1890, describes a method of treating post-partum hæmorrhage which he has practised successfully on more than thirty cases, excluding patients who, when first seen, were in *articulo mortis*. After the uterus is thoroughly emptied, it is grasped through the abdomen, and with the other hand two or three pieces of clean and transparent ice the size of a walnut are carried into the uterus and upper part of the vagina, where they are allowed to remain a few minutes. The external compression of the uterus is continued for fifteen minutes. According to the author, the bleeding stops immediately and permanently. The previous complete emptying of the uterus he considers of great importance, as clots will prevent thorough contraction.

Dirska has never seen bad symptoms follow this treatment, but he insists on the importance of using as pure and germ-free ice as is obtainable; moreover, he suggests that in hospitals ice might be artificially made for the purpose from sterilized water. After using ordinary ice the risks of septic infection can be reduced by intra-uterine injections of an ice-cold antiseptic solution. Cold fluids, however, cannot be used in place of the ice, as the latter acts not only through its temperature, but by virtue of the fact that it is a foreign body.

Administration of Quinine in Malaria.—According to M. JACCOUD, there is a great and important difference between the apparent and the real onset of an attack of intermittent fever. The real onset begins several hours before the chill, and consists in an increase of the urea in the urine. Chronologically speaking, then, the first phenomenon in intermittent fever is not the chill, nor the elevation of temperature, but the greater or less increase of urea in the urine. This increase takes place at different times in the various forms of malarial fever. In the tertian it is six or eight hours earlier than the chill; in the quartan type it may be twelve, fifteen, or eighteen hours earlier. Thus the proper time for administering quinine is fixed by the nature of the disease, its action being felt six hours after the remedy has been given. It will be perceived that in the quotidian type of intermittent fever a dose of quinine given six hours before the chill has not time to modify it, because the real onset occurs two hours before this outward manifestation—the chill—and, therefore, to be effective, the drug must be given eight hours before this is expected. In tertian fevers the proper time for giving quinine is twelve hours before the chill, and in quartan fever it is eighteen hours. Large single doses are most effective, because the drug is rapidly eliminated by the urine. Small and repeated doses never produce the action of the whole amount prescribed. When any gastric disturbances make small doses necessary, the whole dose should be given in such

fashion that it is disposed of in one hour or less.—*New York Medical Journal*, March 15, 1890.

Medical Treatment of Dysmenorrhœa.—DR. E. W. MITCHELL writes as follows upon the medical treatment of dysmenorrhœa:

Remedial measures naturally divide themselves into those of relief and those of cure. Of the former, opiates occupy the first place in their power to relieve and in their power for ultimate evil; but once used, the danger of the opium-habit is great. The bromides, chloral, tincture of cannabis indica, hyoscyamus, belladonna, are all valuable. In plethoric women with scanty flow he has often found the bromides, combined with belladonna or hyoscyamus, promptly effective in affording relief. Sometimes the pain may be arrested by beginning their administration a day or two preceding the flow. Cannabis indica is useful in certain spasmodic cases and in cases with a free flow.

Antipyrine is a valuable addition to our means of allaying pain, and will give temporary relief in a large majority of cases, whatever the diseased condition; but the author has not been able to observe any curative effect. Caution should be exercised in its administration, since in too large doses dangerous symptoms may arise, especially in anæmic women. Dr. Palmer speaks highly of concentrated tincture of cimicifuga and of tincture of pulsatilla. Dr. Mundé also recommends pulsatilla in the neuralgic form. The physician may very wisely give his patients (and especially the anxious mothers) a warning against overdosing and oversoothing. Rest in bed, the application of dry or moist heat, an occasional hot sitz bath, the moderate drinking of hot fluids, are domestic measures which will afford a certain amount of relief. The dosing with gin or whiskey, with tansy tea, etc., should be discouraged. With cannabis indica in cases in which the flow is free; belladonna or hyoscyamus in spasmodic cases; antipyrine, possibly oxalate of cerium, pulsatilla, etc., we have a list of remedies for relief which are safe and usually effective for the time.

Bromides in congestive cases, used occasionally or for short periods of time, may be valuable, but their prolonged administration disorders the stomach and favors anæmia. Chloral should be used with circumspection on account of the liability to the establishment of the chloral habit.—*American Journal of Obstetrics*, March, 1890.

Treatment of Morphinism.—In a valuable paper upon morphinism (*Dublin Journal of Medical Science*, December, 1889), DR. ARTHUR WYNNE FOOT writes that it is easier to cure a morphine-eater of his craving than a morphine-injector. The probability of a cure may be estimated by attending to the following points: (1) The duration of the habit. Cases of short existence are more successfully treated than those in which the habit, of long standing, has exercised a deleterious influence on mind and body. (2) The persistence or not of the condition which gave rise to the exhibition of the drug. If this condition be irremovable, a cure is scarcely to be expected. (3) The physical and nervous constitution of the patient. Bad effects follow the withdrawal of morphine in cases of weakly individuals, or in those of specially nervous temperament. The magnitude of the

dose does not much affect the prognosis, except in so far as the larger doses indicate chronicity of the habit. It is a hopeful consideration that, in most cases, to break the habit means to get well, because, unlike alcoholism, the morphine-habit does not entail structural lesions of any vital organ. Relapses, however, are very frequent, being more common in men than in women. So great is the tendency to relapse that Jäckel does not consider a cure to be accomplished by the mere suppression of the morphine-hunger, but considers the continuance of control over the patient in a proper institution of the greatest importance. Dr. Wynne Foot's practical remarks on the treatment of morphinism may be summarized as follows: The process of cure requires a degree of moral and physical courage seldom at the disposal of a morphine *habitué*. His abject mental state calls for firmness, gentleness, and tact on the part of the physician and the attendants. Neither the intensity of his craving nor the reality of his sufferings should be underrated or disputed. Four methods of treatment have been tried: (1) the *deceptive plan*; (2) the *substitution plan*; (3) the *tapering-off plan*; (4) the *abrupt withdrawal plan*. The deceptive and the substitution plans are not worthy of serious consideration in the management of confirmed morphinism; the latter simply handing the sufferer over from one enemy to another. Not only is the substitution of cocaine for morphine dangerous, but there is a risk of developing a cocaine-habit which is worse than morphinism. As to the tapering-off plan and the abrupt withdrawal plan, there seems to be no unanimity of opinion as to which mode of treatment should be employed. The first-named plan consists in the gradual reduction of the dose, until none of the drug is required. Dr. B. W. Richardson considers it better to reduce the dose at each administration than merely to lessen the number of injections in the twenty-four hours. The abrupt discontinuance of the drug is attended in all cases by indescribable sufferings, and in many by serious dangers. When morphine is suddenly cut off in those accustomed to its use a remarkable group of severe and alarming symptoms ensue, called the *Abstinenz-symptome* or reactionary effects. These comprise acute diarrhoea, insomnia, great excitement, amounting at times to mania dangerous to those around, and particularly to the physician; hallucinations, and collapse. Great care is needed in the case of pregnant women addicted to opium, because incautious attempts to withdraw the habitual drug are, according to some authorities, almost certain to be followed by premature labor.—*Practitioner*, February, 1890.

Treatment of Sycosis.—BROOKE considers that sycosis is always a contagious disease, and that there is no non-parasitic sycosis (*British Journal of Dermatology*). Sycosis, like true barber's itch, affects, almost exclusively, those who frequent the lower class barber-shops. Three or four days after being shaved, the patient notices a localized redness, followed by the formation of small points of pus, the commonest seat being just below the lower lip. The treatment Brooke recommends is, should there be much inflammation or eczema, the application of a lukewarm poultice of an antiseptic starch paste (made from starch powder 1 ounce, boric acid 30 grains), to be changed three times daily. This helps to

soothe the inflammatory condition, to clean the skin from crusts and scabs, and to soften and empty the pustules. As soon as possible, epilation and shaving must be begun. The ointment which he finds generally effectual is composed as follows:

R.—Oleate of mercury (2 per cent.) 1 ounce.
 Ichthyol 20 minims.
 Salicylic acid 10 grains.
 Oil of lavender 2 drops.—Mix.

This should be kept applied on strips of lint or linen. It is by no means absolutely necessary to shave frequently, but the stubbly condition of the hair produced by infrequent shaving seems the most irritating to the follicles and most provocative of relapses. Hence the full growth of the hair is the next best alternative to regular daily shaving. External influences have not infrequently a distinct modifying effect on the disease; thus the sudden advent of cold wet weather, to which the patient may have been exposed, and internal causes, such as dyspepsia, nervous depression, anæmia, and struma, are apparently answerable, in some cases, for sudden relapses or very prolonged duration.—*Edinburgh Medical Journal*, March, 1890.

The Prevention of Urethral Fever.—DR. C. G. BUCHANAN KLOPHEL contributes a valuable paper on urethral fever to the *Therapeutic Gazette*, March 15, 1890, and in the prophylaxis of the disease lays stress upon the following points:

1. In operations for the relief and cure of chronic retention of urine, the complete evacuation of the urine at first should not be permitted, but rather the withdrawal of only a few ounces, and the immediate injection of a solution of boric acid or other mild antiseptic, in volume equal to one-half the quantity of urine withdrawn, lessening with each succeeding injection the quantity of fluid thrown in, and increasing the amount of urine withdrawn. As a result, we have less shock, if, indeed, any; no suppression of urine; no hæmorrhage from the urinary organs; and slight, if any, so-called urine fever.

2. Tight strictures of the membranous urethra are more successfully, and hence more safely, dealt with by perineal section. When associated with strictures of the pendulous urethra, the combination of internal and external urethrotomy is undoubtedly the best treatment.

3. The decomposition of blood, urine, and other organic matter in the bladder or urethra, may give rise to the phenomena of urethral fever through the production of ptomaines; hence the necessity for antiseptic treatment, generally and locally.

4. The disease is more common among those who are predisposed to it by a peculiar nervous temperament.

5. In view of the fact that more or less shock attends all urethral operations, especially the forcible and rapid dilatation of old strictures with sounds; and as sudden death has followed even the gentle insertion of a sound, the calibre of which was less than that of the stricture, it is hence important that all practicable antiseptic precautions should be observed in every case of dilatation of a urethral stricture or strictures, with a view to avoiding, so far as possible, such effects, which are more likely to follow the rapid dilatation of old strictures when not preceded by internal urethrotomy.

6. It is also important to ascertain the condition of the bladder, urine, and kidneys before operating for stricture of any degree, and when these two organs are found extensively diseased, the greatest skill, gentleness, and patience are necessarily called for in the treatment of strictures. Further, when these organs are diseased, and we have to deal, in a given case, with several strictures of very small calibre of the pendulous urethra, two courses compatible with safety are presented, viz.: gradual dilatation alone, or internal and external urethrotomy, leaving a few days between the internal and external operation, the latter being done first.

7. Quinine, in any quantity, exerts no manifest influence over the course of urethral fever.

8. Boric acid, internally, by its resolvent and antiseptic action, doubtless does exert a favorable influence upon the disease, and will prove a prophylactic if given some days before operating.

9. With a further view to prophylaxis, both before and after all operations upon the urethra—even simple catheterism—the canal should be injected with some mild antiseptic. This is more essential after each act of micturition subsequent to internal urethrotomy.

10. When urine fever persists despite all treatment, or should it, after any operative interference with the urethra, jeopardize the patient's life, perineal section should certainly be done.

Treatment of Delirium Tremens.—In discussing the treatment of delirium tremens (*Journal of Nervous and Mental Diseases*, March, 1890), DR. E. P. HURD says that in most cases alcohol should be withdrawn at once, though in a few the gradual "tapering-off" method is preferable. Again, there are other patients in whom symptoms of cardiac weakness make the stimulation of alcohol necessary. Sleep is undoubtedly the great restorative, and, to procure this, recourse must be had to the hypnotics, of which the author prefers chloral. In some cases he combines $\frac{1}{2}$ grain of morphine with 20 grains of chloral. Capsicum is also a useful drug, stimulating, as it does, the gastric branches of the vagi, and indirectly the nerve-centres. Dr. Kinnear, of England, at one time gave 20-grain boluses of powdered capsicum, the patient falling into a quiet sleep within an hour after taking the dose.

Lately a new treatment of delirium tremens by large doses of strychnine has been recommended. To Laton, of Rheims, we are indebted for this therapeutic novelty. Laton advised doses of 5 milligrammes ($\frac{1}{4}$ grain) by hypodermic injection or by mouth; these doses to be repeated two or three times a day. Dujardin-Beaumetz has repeated the hospital experiments of Laton with uniformly good success. By experiments on animals, Beaumetz has found "that there exists within certain limits a real antagonism between the action of alcohol and strychnine." Drs. Journet and Bounard also report favorable results from a series of trials in private practice of this remedy in delirium tremens, and in a number of the *Bulletin Générale de Thérapeutique* for 1888 appears an article by a Brazilian physician, Ramos, "On the Employment of Strychnine in Delirium Tremens," in which he extols the effects of this remedy. He declares strychnine superior to all other remedies, morphine, chloral, paraldehyde, etc., in controlling the disordered

manifestations of alcoholism. Ramos would give large doses, hypodermic injections of $\frac{1}{4}$ grain, repeated every four or five hours, till the insomnia, agitation, and delirium are mitigated or disappear. In some cases, he does not hesitate to give as much as 1 grain in the twenty-four hours.

Mixture for Epilepsy.—According to the *American Druggist*, BROWN-SÉQUARD'S mixture for epilepsy is composed as follows:

R.—Sodium bromide	} of each	180 grains.
Potassium bromide		
Ammonium bromide	} of each	90 "
Potassium iodide		
Ammonium iodide		
Ammonium carbonate		60 "
Tincture of calumba		1½ fl. ounces.
Water, sufficient to make		8 " "

Prescription for the Fever of Phthisis.—The *Revue de Thérapeutique* quotes the following prescription, which is said to be used by LIEBERMEISTER in the hectic fever of phthisis:

R.—Sulphate of quinine	30 grains.
Pulverized digitalis	7½ "
Extract of gentian	sufficient quantity.

Mix, and divide into forty pills, of which from six to ten may be taken daily.

Prescription for Acne.—The following is quoted in the *Centralblatt für die Gesamte Therapie*, March, 1890:

R.—Salicylic acid	} of each	52 grains.
Sodium borate		
Boric acid		40 "
Alcohol	} of each	1½ ounces.
Glycerin		
Oil of bergamot		5 drops.

To be used as a wash three times daily.

Prescription for Eczema.—According to the *Centralblatt für die Gesamte Therapie*, SAALFELD uses the following ointment in cases of pustular eczema:

R.—Potassium carbonate	15 grains.	
Salol	75 "	
Olive oil	150 minims.	
Sulphur.	1½ drachms.	
Zinc oxide	} of each	3½ "
Starch		
Lanolin, sufficient to make		6 ounces.—M.

Removal of Warts by Electrolysis.—DR. PATRZEK, of Oppeln, describes, in the *Deutsche medicinische Zeitung*, his method for removing warts by electricity. The wart is first thoroughly moistened with a warm solution of salt. Both needles are then thrust through it just above the surface of the skin, and the current turned on, one element after another being added until pain is felt. Five cells are sufficient. With most cases two sittings of five minutes each are sufficient to destroy the growth, which gradually dries up and falls away, leaving a surface at first slightly reddened, but which later assumes the appearance of normal skin.—*Weekly Medical Review*, March 15, 1890.

THE MEDICAL NEWS.

A WEEKLY JOURNAL
OF MEDICAL SCIENCE.

COMMUNICATIONS are invited from all parts of the world. Original articles contributed exclusively to THE MEDICAL NEWS will be liberally paid for upon publication. When necessary to elucidate the text, illustrations will be furnished without cost to the author.

Address the Editor: H. A. HARE, M.D.,
1004 WALNUT STREET,
PHILADELPHIA.

Subscription Price, including Postage.

PER ANNUM, IN ADVANCE \$4.00.

SINGLE COPIES 10 CENTS.

Subscriptions may begin at any date. The safest mode of remittance is by bank check or postal money order, drawn to the order of the undersigned. When neither is accessible, remittances may be made, at the risk of the publishers, by forwarding in registered letters.

Address, LEA BROTHERS & CO.,
Nos. 706 & 708 Sansom Street,
PHILADELPHIA.

SATURDAY, MARCH 29, 1890.

ARSENIC AND BICHLORIDE OF MERCURY IN THE TREATMENT OF ANÆMIA.

ALTHOUGH it is perfectly true that we have almost no knowledge of the manner in which alteratives act in instances of disease where, through morbid functional activity, enlarged glands or growths appear, it is evident that they must act upon the trophic nerves or directly upon the nourishment of the affected parts. If they are used in large quantities they act as depressants to the normal nutrition of the body, producing primarily a decrease in the vitality of morbid growths, so that they melt down and disappear, and they may finally so reduce the condition of the healthy tissues as to cause sloughs and ulcerations. Whether these changes are due to the over-stimulation of nutrition—that is, to an excessive trophic change—or whether they depend upon actual lowering of the tone of the parts, we know not. One thing we do know, however, and that is, that small doses of most of the so called alterative drugs act as very distinct stimulants to the development of normal structures, and in no instance do we find this more typically represented than the effect which they exert on the blood. Quite a number of years ago Keyes, of New York, emphasized the value of minute doses of mercury bichloride in syphilitic and other anæmias, and abundant clinical observation has certainly confirmed his views. The dose of bichloride of mer-

cury in anæmia should be about one-fortieth of a grain. Not only will minute doses of the bichloride of mercury act in this way, but small amounts of calomel or mercury itself will have such an effect.

Inunctions of very small amounts of mercurial ointment, once a day, or every other day, in adults and children, will increase the fulness and redness of the cheeks and lips, and the number of the corpuscles; the piece of ointment used being no larger than the half of a very small pea. This treatment will be found of service in cases not dependent upon specific taint or scrofula. The marked increase in the nutrition of children of a syphilitic taint, who are suffering from marasmus, under the use of gray powder and inunctions, gives further evidence of this fact.

Arsenic also is of value in anæmic conditions, and may be employed in comparatively larger doses than mercury; but, nevertheless, smaller amounts than are usually given in chorea and similar states. Osler has shown the value of the drug in anæmia, and so has Barton, of University College, in England. Any one of the preparations may be employed, but not more than one-sixtieth of a grain of arsenious acid should be taken in a day, although more has been used with no less benefit to the patient. Most of the drug under these circumstances is in excess and is cast off in the urine and feces unused and wasted, and strains and irritates the emunctories of the body during its passage through them.

TREATMENT OF DYSENTERY BY ENEMATA OF CORROSIVE SUBLIMATE, ETC.

It is now generally recognized that certain morbid conditions of the intestinal tract may be favorably modified by various drugs belonging to the class of antiseptics, among which the chief are calomel, bismuth, naphthalin, and thymol. It is a noteworthy fact that these substances are all insoluble, and it is in virtue of this property that they are enabled to run the gauntlet of the absorbents and exert their specific action upon the intestinal contents. The best of all antiseptics—corrosive sublimate—has thus far been of little use for the purpose mentioned, because it was supposed that no benefit could be exerted by any but a lethal dose. While this may be true of its administration *per os*, it is shown by G. LEMOINE (*Bulletin général de Thérapeutique*, January, 1890) to be a mistake so far as concerns administration *per rectum*.

Lemoine has treated fifty-four cases of dysentery by enemata of corrosive sublimate and with the happiest results. The strength of the solution was one to five thousand, of which, two hundred grammes were at first administered three times a day; later, two hundred grammes of a solution of one to three thousand were injected twice daily. Improvement showed itself, as a rule, after the first injection, the first symptoms to disappear being the tormina and tenesmus. In a certain number of cases the tenesmus was so great that the enema could not be administered without a preliminary treatment, which consisted in painting the sphincter with a five per cent. solution of cocaine.

In the acute cases, a cure resulted from this treatment in from three to four days; whereas, in the more chronic cases which presented themselves for treatment on account of an acute exacerbation, a cure was effected, as a rule, in one day. The latter statement is somewhat startling in view of the well-known fact that chronic dysentery is decidedly rebellious to all the usual modes of treatment.

In no case was there any sign of systemic poisoning. It is probable, Lemoine believes, that the mercury is not absorbed when thus employed in dysentery. In five cases he tested the urine for mercury, and in every instance with negative results. This fact seems to stand in marked contradiction with the well-known absorbent power of the large intestine, and is probably due to the intensity of the inflammation of which it was the seat.

Lemoine's cases were all treated in Algiers, and many of them were of a severe type. In view of the infectious character of dysentery, the treatment is eminently rational, and the demonstration that our most powerful germicide can be used with impunity as an intestinal antiseptic is of decided value. At the same time, in view of the accidents that have followed the employment of resorcin in lavage of the stomach, we would recommend the greatest caution in the use *per enema* of the more poisonous corrosive sublimate.

REVIEWS.

OUTLINES OF THE HISTORY OF MEDICINE AND THE MEDICAL PROFESSION. By JOH. HERMANN BAAS, M.D. TRANSLATED, AND IN CONJUNCTION WITH THE AUTHOR REVISED AND ENLARGED. By H. E. HANDERSON, A.M., M.D. New York: J. H. Vail & Co., 1889.

THIS is one of the most valuable books which has appeared for a number of years, representing a class of

medical literature of a standard equal to Hirsch's well-known book on *Geographical Pathology*. At the present time students, in graduating from medical colleges, leave with the idea that everything in medicine has been acquired within the last fifty years, and that everything which occurred before that period is absolutely useless in their daily life. In reality, a little knowledge of what our ancestors have done before us when defending themselves against disease would often save much useless repetition, and on certain occasions a large amount of chagrin, when a remedy brought forward as new is proved by wiser heads to have been used hundreds of years before. One of the best instances of such a state of affairs is represented by Bergeon's treatment of phthisis, which depended entirely for any therapeutic effect which it might possess upon the sulphur which it contained. Hundreds of years ago it was discovered by the medical men of the period that the influence of sulphur was exceedingly useful when applied to certain diseases affecting the mucous membranes, yet it remained for Bergeon to bring forward as a new idea the rectal injection of this remedy in the disease known as tuberculosis of the lung. A little knowledge at the time Bergeon first brought this method to notice would have saved a vast amount of experimentation and a still greater amount of expense to those who in their desire to aid in a discovery hastened to buy the necessary apparatus.

It is impossible for us in this brief review to do more than call attention to the great thoroughness with which the author and translator have carried out their work. No point has been left uncovered, and yet the book is so arranged that it can either be used as a work of reference or be enjoyed as interesting reading.

The American publishers have thought best to leave out a large number of the references which the German author placed in the original book, and this cannot but be regretted as an unfortunate decision. At the same time we readily recognize the fact that these additions would have very materially increased the cost and consequently the price of the work, and might have placed it far beyond the reach of many of those who might desire to possess it.

In conclusion, we wish to urge upon the profession in general the necessity for obtaining some such work and of glancing over its pages before attempting to foist upon their unsuspecting brethren a remedy which in reality may be as startlingly old as they believe it to be novel.

A TEXT-BOOK OF OBSTETRICS, INCLUDING THE PATHOLOGY AND THERAPEUTICS OF THE PUERPERAL STATE: DESIGNED FOR PRACTITIONERS AND STUDENTS OF MEDICINE. By F. WINCKEL, M.D. TRANSLATED FROM THE FIRST GERMAN EDITION WITH THE PERMISSION OF THE AUTHOR. By J. CLIFTON EDGAR, M.D. Ninety illustrations. Philadelphia: P. Blakiston, Son & Co., 1890.

NOTWITHSTANDING the fact that American obstetricians have not been at all backward in providing students and their professional brethren with text-books upon midwifery, it is perhaps well that some of the prominent teachers of the United States in studying foreign authors have concluded to place before Americans the views which they find so useful in their utterances to their students.

There can be little doubt that the differences which exist in the methods of treatment in different portions of the world depend upon two great causes. The first of these is the geographical position of the persons among whom the author practises his profession, and the other is the mental tendencies which are peculiar to certain races. For this reason it is very frequently useful to place German, French, English, and American ideas side by side, and by a process of mental boiling down to separate the good grain from the practice of each nation, with a result which surpasses in every detail the methods of any one country.

It is useless for us to attempt to criticise a work of which Professor Winckel is the author. His practical experience and laborious researches in the literature of the subject have qualified him to place before the profession a book which is certainly of great value, and we desire to compliment Dr. Edgar upon his foresight and admirable work in the preparation of the American translation. One of the useful things about the work is that bibliographies accompany the articles upon each special subject, while the illustrations seem to us to be almost entirely original, which is but natural when we consider the enormous amount of material from which the author may obtain figures. The work of the American publisher has been well carried out, as is usual under these circumstances, and we venture to say the translation is put before the profession of this country in much better form than the German publishers placed the original before the physicians of the Fatherland.

SOCIETY PROCEEDINGS.

NEW YORK COUNTY MEDICAL SOCIETY.

Stated Meeting, February 24, 1890.

EYE-STRAIN, AND AN EASY METHOD FOR ITS DETECTION.

DR. FRANCIS VALK believes that the peripheral irritation caused by eye strain, either when the extrinsic or intrinsic muscles are involved, tends to cause various nervous phenomena, and may even be the exciting cause of the manifestations of functional chorea and epilepsy. He called attention to a recent monograph by Dr. J. H. Woodward, of Vermont, in which it is stated that out of one hundred and fifty cases of headache, vertigo, lachrymation, nausea, epileptiform convulsions, migraine, neuralgia, and similar troubles, at least eighty-five per cent. were relieved by the use of suitable glasses; sixteen per cent. were not benefited; while in the remaining cases either the patients refused to follow advice or the results were unknown. All of these cases had refractive errors, which, Dr. Valk said, could have been recognized by the method which he advocated in his paper.

The author showed that hyperopia was the most serious refractive error giving rise to eye-strain, because perfect vision was only possible by the continued action of nervous impulses which control the ciliary muscles. In the opposite condition, or myopia, there may be no eye-strain, except under special circumstances, such as the use of too powerful glasses. In the astigmatic eye, in order to counteract the effect of the unequal curvature, there must be unequal contraction of the ciliary muscle

in the different meridians, with consequent strain and irritation.

When the intrinsic muscles of the eye are affected, the subjective symptoms which may be present are: headache, usually frontal and about the eyes; pain in the eyeballs, and a feeling of strain after reading; burning, lachrymation, floating specks before the eyes, slight stickiness of the eyelids in the morning, dizziness and vertigo.

When the extrinsic muscles are the seat of the difficulty, there will usually be occipital headache, or pain referred to the back of the neck.

During the last two years or more, the author has made frequent use of the simple and important diagnostic test known as "retinoscopy." In this method, as he practised it, the observer does not watch the movements of any shadow, but simply the movements of the illuminated portion of the retina across the pupillary space. If the pupils be widely dilated, it may also be noticed that the refraction at the periphery of the cornea is different from that in the centre, giving rise to two apparent shadows. If these appear to move in opposite directions, the condition present is one of hyperopia in the centre, and myopia at the periphery.

The instrument requisite for the performance of this simple test is readily extemporized by taking an oblong piece of looking-glass, $3 \times 1\frac{1}{2}$ inches, and covering it with paper. About one inch from the end, and on the face of this glass, cut away the paper so as to expose a clear circular portion of the mirror about $1\frac{1}{4}$ inches in diameter, and on the back of the mirror, at a point corresponding to the centre of this circle, remove the paper and the quicksilver, so as to leave an area of clear glass one-eighth of an inch in diameter.

Any perforated plane mirror will of course answer the purpose equally well. The room should be darkened, and a good light placed above and a little behind the person to be examined, who is seated in front of the examiner about forty inches distant from him. Placing the instrument before the right eye, and looking through the central aperture, the reflected pencil of light from the mirror is projected into the patient's eye. If the right eye is to be examined, the patient is directed to look beyond and just to one side of the right ear of the examiner. If the room be properly darkened, the pupil will be sufficiently dilated to make the examination easy; but if not, a very weak solution of atropine may be used, or a few drops of a two per cent. solution of cocaine may be instilled into the eye about fifteen minutes previous to the examination. The pupillary space appears of a beautiful orange-red color, with some indistinct apparent shadows at the edge of the pupil as the mirror is moved. The mirror is now slightly and rapidly rotated on its vertical or horizontal axis, being careful not to move the head. If there be any error of refraction, the bright illuminated part of the retina will be noticed to move across the pupillary space followed by what appears to be a dark shadow, but which is really a portion of the retina not illuminated. It is the movement of this bright area that will indicate any error of refraction that may exist. If the mirror be turned to the right on the vertical axis, and the illuminated area is seen to move in the same direction, then the eye must be hyperopic, or shortened in its antero-posterior diameter, and the image seen is a virtual image of the illuminated part of the

retina. Again, if with the same rotation of the mirror, this movement of the bright area is in the opposite direction, or toward the left, then the eye must be myopic, or increased in its antero-posterior diameter, and the image seen is a real inverted image of the illuminated part of the retina. If these two movements of the reflex are very rapid and uncertain, very bright, filling the entire pupillary space, the eye is almost if not fully emmetropic, or, in other words, there is no existing error of refraction. If astigmatism be present, there will be a difference in the movements of the retinal reflex. If, on rotating the mirror, the movements of the reflex in the vertical meridian are in the same direction, the refraction in that meridian is hyperopic; and if the movement in the horizontal meridian is in an opposite direction, the refraction of this meridian must be myopic, and the condition present is known as mixed astigmatism. Should the movements of this reflex be distinct, either with or against the rotation of the mirror in any one meridian—vertical or horizontal—and stationary in the meridian at right angles to that, then this meridian would be emmetropic, and the condition present is known as simple astigmatism—myopic or hyperopic according to the movements of the reflex in each principal meridian. If this astigmatism be at the meridian on the arc of the circle other than that of the vertical or horizontal axes, it will be at once shown by the direction in which the retinal reflex moves, without regard to the rotation of the mirror, at the same time showing the error of refraction.

This test may also be practised with the concave mirror found on the ophthalmoscope, but with this mirror it must be remembered that all the movements of the retinal reflex will be reversed, viz., in myopia the movements will be with the rotation of the mirror, and in hypermetropia they will be in the opposite direction.

This method of retinoscopy was first introduced to the profession from France, and since then has been largely adopted by the English; but it seems to have met with distinct disfavor among the Germans, one of their professors calling it "the lazy English method;" nor is it yet very generally adopted in this country. Dr. Valk considers it one of the simplest methods for the diagnosis of all errors of refraction, and says that when fully carried out in all its details, it is one of the most exact methods in the hands of the ophthalmologist. In his experience, it has almost invariably agreed with the results obtained by examinations made under atropine with trial glasses and with the ophthalmoscope.

One of the great advantages of the method is that it is not dependent upon subjective statements, but is practically an objective method with positive results, and consequently can be used to determine the refractive condition of children, illiterate persons, and in eyes deficient in visual power—the condition known as amblyopia.

The position taken by the author, that retinoscopy was an easy and desirable method adapted to the wants of the general practitioner, did not meet with the approval of ophthalmologists, who unfortunately were the only ones present who participated in the discussion. The general opinion was that the method required considerable practice and skill; while others went still further and denounced the method as one which was unreliable and incapable of yielding accurate results.

DR. O. D. POMEROY said that there might be eye-strain with a perfectly normal eye; and the reason was to be found in the fact that the ciliary muscle was overworked. There was a limit to its powers of endurance, just as there was in the general muscular system. There were also occasionally very puzzling cases, in which, after correcting the errors of refraction by tenotomies and prisms, and securing a perfect muscular balance, the disagreeable symptoms still persisted.

The great objection to retinoscopy was that it was not only difficult to acquire, but demanded constant practice, and, after all, it merely indicated the existence of refractive errors without determining their degree.

DR. EMIL GRUENING was one of those who did not consider retinoscopy a practical test for the general practitioner, although easy for the ophthalmologist; and, moreover, when practised without atropine, the method was faulty. Only a portion of the hyperopia present might be found, and hence it was necessary to relax the accommodation completely. It was also important that the slightest degree of astigmatism should be corrected; for, he had repeatedly seen benefit from correction of only half a dioptre. But such a small degree of astigmatism would most probably be overlooked in an examination by retinoscopy.

DR. LAMBERT had already called attention to an apparatus which he had devised to facilitate the employment of this method. By using atropine, he had been able to detect one-quarter of a dioptre, and had confirmed this result by subsequent tests with trial glasses. The method, moreover, gives the absolute direction in which the cylinders should be applied; for if a little out of the vertical plane, the shadow inclines slightly toward one side or the other. The method, however, is not easily practised, and is particularly tedious.

Dr. Valk replied that he had used this test very carefully with the plane mirror and without any lens, and it had enabled him to detect one-quarter of a dioptre, the result being afterward confirmed by the use of atropine and trial glasses.

Mention had been made of the rarity with which emmetropia was observed by ophthalmologists. He thought this was largely due to the fact that there is rarely occasion for such people to apply for treatment. He considered the normal eye to be really slightly hypermetropic—*i. e.*, about half a dioptre.

CORRESPONDENCE.

ST. LOUIS.

To the Editor of THE MEDICAL NEWS,

SIR: The largest deal, to borrow a commercial expression, that has been made in medical college affairs has just been consummated, by which the St. Louis Post-Graduate School of Medicine ceases to maintain a separate corporate existence, and becomes a department of the Missouri Medical College. The Post-Graduate School building, which is claimed to be the finest structure of its kind in the United States, has been purchased by the Missouri Medical College, and will be used for the senior classes of the under-graduate department and also for post-graduate classes. It is asserted that the clinics of the Post-Graduate School have been altogether

the best in the city. The large clinics at the old Missouri College will also be kept up as heretofore.

The Missouri Medical College adopts next year a three-years' graded course. For this, as for many other important advances the profession has to thank the Illinois State Board of Health.

In absorbing the Post-Graduate School of Medicine the Missouri College not only takes the fine building of that school, but takes into its faculty several additional members, viz.: Dr. Horatio N. Spencer, Professor of Otology; Dr. William C. Glasgow, Professor of Diseases of the Throat and Chest; and Dr. George J. Engelmann, Professor of Gynecology. Besides these, Dr. A. J. Steele is to be Clinical Professor of Orthopædics, and Dr. H. W. Herman, Clinical Professor of Diseases of the Nervous System and Electro-therapeutics. This gives the Missouri Medical College a staff of fourteen professors with a large corps of clinical assistants and demonstrators, and a property estimated at \$100,000.

On Sunday morning, February 16th, there died at his residence in this city one of the oldest members of the medical profession here, Dr. C. W. Stevens. He was born at Pompey, Onondaga Co., N. Y., June 16, 1817, and was of Welsh and English descent. Having been educated as a civil engineer, he came west in 1838, but feeling dissatisfied with the prospects of success in that profession, he commenced the study of medicine. He attended lectures in Kemper College—now the Missouri Medical College—and was graduated in 1842. In 1844 he was made Demonstrator of Anatomy in that school, and held the position until 1849, when he took the same place in the St. Louis Medical College. Six years later he was assigned to the chair of General, Special, and Surgical Anatomy in the latter school, which he filled ably for thirteen years. In 1868 he resigned his professorship and gave up his practice to take charge of the St. Louis County Insane Asylum. As Superintendent of that institution he did credit to himself and gained a considerable reputation as an expert in insanity. In 1872 he resigned his office and returned to general practice in the city, though much of his work was in the field of neurology and psychiatry, being often called to testify in medico-legal cases. He was a pronounced Union man during the war, and saw several months of field service as a volunteer surgeon. In 1879 he was elected President of the St. Louis Medical Society. From November, 1883, to July, 1886, he was again Superintendent of the St. Louis Insane Asylum. Since that date he has given his time to private practice. In accordance with his own request, his remains were cremated.

The several medical colleges of this city hold their graduating exercises this month. On the evening of March 4th, the Missouri Medical College held its graduating exercises, and at the same time celebrated the fiftieth anniversary of the founding of the institution by Drs. Joseph Nash McDowell and John F. Moore. The number graduated this year was 101.

On March 13th, the forty-eighth annual commencement exercises of the St. Louis Medical College took place, the number of graduates being 22. This school has always consistently maintained an advanced position with regard to requirements for graduation and for ten years has had a compulsory three-years' course of study.

In connection with these exercises were held those of

the graduating class of the Missouri Dental College; the dental graduates numbering 32.

The same evening the Homœopathic Medical College of Missouri graduated a class of 25 members. The position of resident physician to the Children's Hospital (Homœopathic) was secured by Dr. D. M. Gibson.

On Thursday morning, March 13th, died at his home in Kansas City, Missouri, a man of very considerable note as a surgeon in the western part of this State. The name of Dr. J. W. Jackson is preëminent in the annals of railroad surgery in this country. In 1874 he was made surgeon-in-chief of the Missouri Pacific Railway, and five years later organized the first railroad hospital in the United States, at Washington, Missouri. In 1881 the hospital was removed to Sedalia, as being a more central point to the extended system of roads which had then been acquired by the Missouri Pacific.

In 1884 the entire Wabash system west of the Mississippi was added to that of the Missouri Pacific, and Dr. Jackson was chief surgeon to the whole system. In 1885 Dr. Jackson resigned his position and was given complete control of the surgical department of the Wabash system. During his service in this position and through his instrumentality four railroad hospitals have been erected, viz., at Springfield, Illinois; Danville, Illinois; Peru, Indiana, and Kansas City, Missouri. It was during his service on the Missouri Pacific system that the hospital building was erected at Fort Worth, Texas, at a cost of \$30,000, then considered the finest railroad hospital in the West.

Dr. Jackson was president of the Missouri State Medical Society in 1855-56, president of the National Association of Railway Surgeons during its first year, 1888-89, and was first vice-president of the American Medical Association at the time of his death.

NEWS ITEMS.

Prosecution of Homœopathic Druggists.—Messrs. Boericke & Tafel have recently been on trial in New York City for alleged violation of the law requiring all apothecaries to be registered and licensed. They have two places of business in the city which are conducted as homœopathic pharmacies. The prosecution against them was brought through the instrumentality of the Board of Pharmacy, whose counsel consented to the dismissal of the case after a brief argument by the defendants to the effect that it would be a hardship to compel a homœopathic chemist to appear before a board of examining pharmacists, and that it would probably result in driving out of the city nearly all homœopathic druggists.

Polyclinic Lecture Course.—The following is a continuation of the course of Tuesday evening lectures which is given by the staff of the Philadelphia Polyclinic at the college building, N. W. corner of Broad and Lombard Streets. The lectures begin at eight o'clock, and are free to members of the profession and to medical students. March 11, Dr. B. F. Baer, Abdominal Surgery; March 18, Dr. Thomas J. Mays, Treatment of Asthma; March 25, Dr. John B. Roberts, The Theory of Antiseptic and Aseptic Surgery; April 1, Dr. Charles K. Mills, Hypnotism; April 8, Dr. Thomas G. Morton, Imperfect Symmetry and Spinal Curvature; April 15, Dr. B. Alex-

ander Randall, The Anatomy of the Labyrinth of the Ear (Illustrated); April 22, Dr. J. Henry C. Simes, Urethrotomy; April 29, Dr. E. P. Davis, Treatment and Prevention of Puerperal Fever; May 6, Dr. Edward Jackson, Heterophoria, or Latent Squint; May 13, Dr. A. B. Hirsh, Newer Methods in Herniotomy; May 20, Dr. C. L. Bower, The Treatment of some common Fractures; May 27, Dr. J. Abbott Cantrell, Scabies—its Symptoms, Diagnosis, and Treatment.

Manitou Springs, Colorado.—Correspondents who have been wintering in the West report a much more agreeable climate at Colorado Springs, "The Saratoga of the West," than at Denver, somewhat further north. The weather in January was glorious. To quote from a letter: "A clear, bright, and balmy sunshine which tempts one to be out in the open air to enjoy it. The winds know how to blow even here, sometimes, although the place is sheltered from the severest of them. We have been walking and driving almost daily, and appetite and ability to sleep have improved greatly. It is a luxury to breathe here for those with lazy lungs." The dryness of the air on the Colorado plateau appears to diminish the sensations alike of heat and cold and almost any degree of winter extremes can be borne without that feeling of chilliness that marks the low temperatures of the East.

Mississippi State Medical Association.—The next annual session of the Mississippi State Medical Association will meet in Jackson, Mississippi, April 16, 1890. Those desiring to report cases or read papers should notify Dr. W. E. Todd, recording secretary, Jackson, Miss.

Cincinnati City Hospital.—At a meeting of the Board of Trustees of the Cincinnati City Hospital, held March 6, 1890, a department for diseases of the throat and nose was created. Dr. E. Sattler and Dr. Max Thorner were elected Laryngologists and Rhinologists to the institution.

Serious Loss by Fire.—The Toronto University with its newly constructed Biological Laboratory was destroyed by fire, February 16th, while it was in the course of preparation for a public reception. The *Lancet* quotes the loss at half a million of dollars, and that the wrecked edifice was the handsomest of its kind in Canada.

Obituary.—The late PROFESSOR KARL WESTPHAL'S thirty years as neurologist in the University of Berlin were marked by many additions to the science of neurology, obtained through earnest work, careful observation, and a conscientious scrutiny of his own results that made unsalable all that he published. His contributions to the study of tabes dorsalis will long be remembered; the loss of the patellar reflex in this disease has been termed "Westphal's symptom," from its discoverer. Some of the other subjects upon which he bestowed special attention were progressive paralysis, epilepsy, paranoia and agoraphobia. The various forms of ophthalmoplegia chiefly interested him during the last few years, and his studies were important not only to the pathology of the affection itself, but also to cerebral anatomy. The combined affections of the spinal cord also engaged his attention, as did the subject of the formation of cavities

in the cord, pseudosclerosis, and Thomsen's disease. Most of his papers on the subjects were first published in the *Archives für Psychiatrie*, which he himself edited for almost two decades.

—DR. EDUARD VON WAHL, professor of surgery at the University of Dorpat, and one of the editors of the *St. Petersburger medicinische Wochenschrift*, died January 29th, aged fifty-seven years. He was appointed to the chair of surgery in 1878, following von Bergmann, now of Berlin. He was a fine operator and brilliant teacher, attracting large classes of students to Dorpat and nearly doubling the attendance at the surgical clinic in ten years. He held the rectorship of the University from 1881 to 1885, and devoted much attention to the question of the prevention of the spread of leprosy in Russia, and promoted the establishment of lazaret-houses. He urged the clinical study of mental diseases at Dorpat, and he himself bought the ground and buildings necessary for the purpose, and presented them to the University. He lectured in German, but was familiar with several other languages. His death is reported to have been the result of an accident he met with a short time before, by which several of his ribs were fractured.

—MEDICAL DIRECTOR ADRIAN HUDSON, U. S. N., died February 7th, at the Mare Island Hospital, California, from pneumonia, supervening upon influenza. He was a native of Canada and a graduate of the McGill University. He entered the navy in 1861, arriving, after twenty-seven years of varied service in his corps, at the honorable office of Medical Director, in July, 1888. He was in charge of the Mare Island Hospital at the time of his final illness.

—DR. EDWARD L. PLUNKETT, a blind physician of New York City, who was a successful quiz-master, died January 10th, aged forty-three years. He became totally blind at the age of twenty-three, when a college student, in consequence of purulent conjunctivitis.

—DR. HEYMANN, professor of hygiene at the Carolina Institution, Stockholm, and editor of the Swedish journal, *Hygeia*, died from cardiac disease during the delivery of one of his lectures.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM MARCH 18 TO MARCH 24, 1890.

By direction of the Secretary of War, authority is granted for the admission of MARCUS E. TAYLOR, Captain and Assistant Surgeon, to the Army and Navy General Hospital, Hot Springs, Arkansas, for treatment therein.—Par. 6, S. O., A. G. O., March 21, 1890.

JARVIS, N. S., First Lieutenant and Assistant Surgeon.—Is granted leave of absence for one month, with permission to apply for an extension of fifteen days.—Par. 1, S. O. 34, Headquarters Department of the Missouri, Fort Leavenworth, Kansas, March 20, 1890.

THE MEDICAL NEWS will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.

Local papers containing reports or news items should be marked. Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

All communications relating to the editorial department of the NEWS should be addressed to No. 2004 Walnut Street, Philadelphia.